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DIET LISTS

OF THE

PRESBYTERIAN HOSPITAL

NEW YORK CITY

COMPILED, WITH NOTES, BY

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PREFACE

THE Diet Lists contained in this volume have been prepared primarily for use in the Presbyterian Hospital; subsequently the comments on the different diets were added, for while the indications for the use of most of the diets is self-evident, the explanatory notes add to the completeness of the presentation and may be found useful to some readers. The Table of Standard Portions was prepared originally by Prof. Irving Fisher, of Yale University, through whose courtesy I am allowed to use the first part of it, while the actual amounts of Protein, Carbohydrate, and Fat contained in each portion was worked out from Bulletin No. 28.

The Table of Food Values has been taken from Bulletin 28, 1906, of the Department of Agriculture, Atwater and Bryant.

The author wishes to express his hearty appreciation for the assistance and advice given him in the preparation of this book by Professor Theodore C. Janeway, also for permission to use certain diet lists prepared by him; to Dr. James C. Greenway, for his courtesy in placing at the author's disposal the diet lists of the New York

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Hospital; and to Dr. Herman O. Mosenthal, for some of the diet lists used in the Vanderbilt Clinic, from which great assistance was derived. The author also wishes to express his appreciation to Miss Selma Granat, for the chemical analyses of some of the diets which were made by her in the laboratory of the Presbyterian Hospital.

When diets have been quoted *in toto*, due reference is made to the source of information. The idea of the table of carbohydrate equivalents was obtained from Von Noorden's writings, but adapted to an American dietary by the author.

HERBERT S. CARTER.

NEW YORK CITY.

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DIET LISTS

OF THE

PRESBYTERIAN HOSPITAL,

NEW YORK CITY

INTRODUCTION

WITHOUT attempting to contribute anything new to the science of dietetics, for which the reader is referred to any one of the many excellent works on this subject, the author of the present little volume has in mind merely the presentation of certain diets and the principles governing their use from a purely clinical point of view. Although accuracy, approximately considered, and not exhaustiveness is aimed at, it is hoped that the completeness of the text will be sufficient for the purpose intended.

There is a constantly growing desire on the part of medical men to utilize more exactly the therapeutic effect of foods, but many are deterred by the seeming difficulty of the subject, and by the lack of the time necessary to prescribe an accurate diet list suited to one of the many varieties of disease. In addition,

institutions in which one would expect to find an economy in dietetic therapeutics, as well as accurate methods for arriving at desired results, are, for the most part, sadly lacking in the ability to give their inmates the benefit of a well-balanced ration and their board of managers an economic use of food stuffs. Hospitals and asylums of all sorts should find an easy and rational way to arrive at a satisfactory use of food products.

The needs of an individual who is laid up by a broken leg and one convalescing from an acute or wasting infectious disease are quite different, yet many hospitals have one standard diet for all such cases, nor is allowance made for the different requirements of men and women based on the caloric needs of the body per kilo of body weight.

In the diets here presented advantage has been taken of the facts developed by Professor Chittenden's experiments, that physiologic economy in nutrition can be maintained on a low level of protein, but no attempt has been made to keep to such a low standard, as this is obtained best by a gradual process of reduction in the protein, whereas patients in general are used to much larger amounts, and convalescents are in need of a certain extra quantity of protein to make up the loss due to the destructive katabolism from acute disease. A rational mean has been aimed at in the quantity of protein recommended which will allow a sufficient margin of safety and still be considerably below the

old standards of supposed protein requirement. The advantages to the individual and to the exchequer of the institution in this are obvious, when one considers the high cost of practically all forms of protein food.

In determining the number of heat units for men and women, an average weight of 70 kilos (154 pounds) has been assumed for men and 60 kilos (132 pounds) has been assumed for women as the basis of reckoning, allowing 30 to 32 calories per kilo of body weight, which is ample for an individual at rest or light work. This applies to the regular house diet, soft, gouty, and anticonstipation diets. In the convalescent diet a greater allowance is made, of approximately 35 calories per kilo of body weight. For obvious reasons the diabetic diets have a greater caloric value than the regular hospital diets, as these cases are so habitually undernourished. No hard-and-fast line has been drawn between the requirements of men and women requiring purin-free, low-calcium, or salt-poor diets, as the cases requiring these diets are never numerous in a hospital ward.

The caloric value of the primal food constituents may be stated as follows (Reubner):

	Calories.
1 gm. protein	4.1
1 gm. fat	9.3
1 gm. carbohydrate	4.1
1 gm. alcohol	7.0

The caloric needs of the body under varying conditions have been variously estimated, but the following represents the average per kilo of body weight for a man weighing 70 kilos (Von Noorden):

	Calories.
Patient in bed, 30 calories per kilo	2100
Confined to room, 32 to 35 calories per kilo	2240–2450
Light exercise, 35 to 40 calories per kilo	2450–2800
Moderate exercise, 40 to 45 calories per kilo	2800–3150
Very heavy labor, 45 to 60 calories per kilo	3150–4200

REGULAR HOUSE DIET—CONVALESCENT DIET—SOFT DIET

Regular House Diet[1]

Each Day of the Week

Total quantity of milk allowed, not over 750 c.c. ($1\frac{1}{2}$ pints).

Breakfast.

Coffee or tea with milk and sugar, or milk.
Bread and butter.
Two eggs to each patient in male wards.
One egg to each patient in female wards.
Cereal with milk and sugar.
Fresh fish. Hash.

Dinner.

Soup.
Meat or fish.
Potatoes (baked, boiled, or mashed) and one of the following vegetables: spinach, squash, boiled onions, beets, sweet potatoes, macaroni, tomatoes, corn.
Bread and butter.
Milk, 180 c.c. (6 oz.).
Pudding or fruit.

[1] Modified from New York Hospital diet lists.

Supper.

Tea or milk. Bread and butter.
Cooked fruit (prunes, apples, or rhubarb).
Apricots. Pears.
Cold meat. Eggs.
Cereal with milk and sugar. Milk-toast.

Particular Foods for the Specified Days

SUNDAY.

Breakfast.	*Dinner.*	*Supper.*
Wheatina.	Chicken.	Cold meat.
Eggs.	Tomatoes.	Prunes.
	Baked potatoes.	
	Fresh fruit.	

MONDAY.

Breakfast.	*Dinner.*	*Supper.*
Hominy.	Vegetable soup.	Eggs.
Bacon.	Roast mutton.	Apricots.
	Spinach or corn.	
	Mashed potatoes.	
	Rice pudding.	

TUESDAY.

Breakfast.	*Dinner.*	*Supper.*
Oatmeal.	Lamb stew.	Cereal with milk
Eggs.	Boiled potatoes.	and sugar.
	Beets.	Apples.
	Sago pudding.	

WEDNESDAY.

Breakfast.	*Dinner.*	*Supper.*
Wheatina.	Chicken.	Cold meat.
Fresh fish.	Baked potatoes.	Rhubarb or
	Boiled onions.	prunes.
	Baked apples.	

THURSDAY.

Breakfast.	*Dinner.*	*Supper.*
Hominy.	Pea soup.	Milk-toast.
Eggs.	Roast mutton.	Baked apple.
	Mashed potatoes.	
	Squash.	
	Bread pudding.	

FRIDAY.

Breakfast.	*Dinner.*	*Supper.*
Oatmeal.	Fish.	Eggs.
Eggs.	Boiled potatoes.	Prunes.
	Macaroni and	
	tomatoes.	
	Rice pudding.	

SATURDAY.

Breakfast.	*Dinner.*	*Supper.*
Cornmeal.	Vegetable soup.	Eggs.
Hash.	Meat stew.	Apricots or pears.
	Mashed potatoes.	
	Spinach or corn.	
	Cornstarch pudding.	

Approximate Values to be Given

	Protein.	Carbohydrate.	Fat.	Total calories.
Men	90 gm. (3 oz.).	300 gm. (10 oz.).	70 gm. (2⅓ oz.).	2200
Women	80 gm. (2⅔ oz.).	250 gm. (8⅓ oz.).	60 gm. (2 oz.).	1800

CONVALESCENT DIET[1]

EACH DAY OF THE WEEK

Total quantity of milk allowed, not over 1250 c.c. (2½ pints) daily.

6 A. M.: Milk, 210 c.c. (7 oz.), if desired.

Breakfast.

Coffee or tea with milk and sugar, or milk.
1 egg, or fresh fish, or plain stew.
Cereal with milk and sugar.
Toast and butter or rolls or bread (white, graham or brown).
Fresh fish. Stew.

Dinner.

Broth or soup with barley or vegetables
Bread and butter. Milk.
Potatoes, baked, boiled, or mashed.
Rice, macaroni, or hominy.
Beef, chicken, or fish.
Pudding, ice-cream, or
Fruit.

[1] Modified from New York Hospital diet lists.

Supper.

Tea or milk. Toast and butter or bread.
Cooked fruit (apples, stewed or baked, prunes, rhubarb, apricots, or pears).
Egg.
8 P. M.: Milk, 210 c.c. (7 oz.).

Particular Foods for the Specified Days

SUNDAY.

Breakfast.	*Dinner.*	*Supper.*
Wheatina.	Chicken.	Egg.
1 egg.	Baked potato.	Prunes.
	Orange.	

MONDAY.

Breakfast.	*Dinner.*	*Supper.*
Hominy.	Roast-beef.	Egg.
Stew.	Mashed potato.	Pears or
	Rice pudding.	apricots.

TUESDAY.

Breakfast.	*Dinner.*	*Supper.*
Oatmeal.	Fresh fish.	Egg.
1 egg.	Boiled potato.	Apples (stewed).
	Hominy.	
	Ice-cream.	

WEDNESDAY.

Breakfast.	*Dinner.*	*Supper.*
Wheatina.	Chicken.	Egg.
Fresh fish.	Baked potato.	Rhubarb or
	Macaroni.	prunes.
	Tapioca pudding.	

THURSDAY.

Breakfast.	*Dinner.*	*Supper.*
Hominy.	Boiled beef.	Egg.
1 egg.	Mashed potato.	Baked apple.
	Rice.	
	Baked custard.	

FRIDAY.

Breakfast.	*Dinner.*	*Supper.*
Oatmeal.	Fresh fish.	Egg.
Egg.	Boiled potato.	Prunes.
	Macaroni.	
	Ice-cream.	

SATURDAY.

Breakfast.	*Dinner.*	*Supper.*
Cornmeal.	Chicken.	Egg.
Stew.	Mashed potato.	Apricots or
	Hominy.	pears.
	Cornstarch pudding.	

Approximate Values to be Given

	Protein.	Carbohydrate.	Fat.	Total Calories.
Men....	100 gm. ($3\frac{1}{3}$ oz.).	300 gm. (10 oz.).	90 gm. (3 oz.).	2500
Women..	80 gm. ($2\frac{2}{3}$ oz.).	300 gm. (10 oz.).	80 gm. ($2\frac{2}{3}$ oz.).	2200

Soft Diet

Soft diet is the same as the convalescent diet, omitting meat, fish, and green vegetables.

Approximate Values to be Given

	Protein.	Carbohydrate.	Fat.	Total Calories.
Men	60 gm. (2 oz.).	350 gm. (11⅔ oz.).	60 gm. (2 oz.).	2200
Women	50 gm. (1⅔ oz.).	300 gm. (10 oz.).	50 gm. (1⅔ oz.).	1800

Milk Diet

Milk, 3000 c.c. (3 quarts). This gives: Protein, 100 gm. (3⅓ oz.); fat, 120 gm. (4 oz.); carbohydrate, 150 gm. (5 oz.); calories, 2160; chlorids, 5.2 gm.

Liquid Diet

Coffee	165 c.c. (5½ oz.)
Broth	675 c.c. (22½ oz.)
Gruel	200 c.c. (6⅔ oz.)
Tea	200 c.c. (6⅔ oz.)
Milk	600 c.c. (20 oz.)
Sugar	60 gm. (2 oz.)
Egg-albumin	90 gm. (3 oz.)
Lemon-juice	60 gm. (2 oz.)

This gives: Protein, 47 gm. (1½ oz.); fat, 28 gm. (1 oz.); carbohydrate, 108 gm. (3⅓ oz.); calories, 900; chlorids, 2.6 gm.

Comments on Regular House Diet, Convalescent Diet, and Soft Diet

Regular house diet, *convalescent diet*, and *soft diet* speak for themselves, and are of particular use in hospi-

tal or institutional dietaries. The variety of foods included is considerable, and should one desire to keep institutional expenses at a lower level, this can be easily done by substituting the less expensive food stuffs, keeping, however, to the same general plan. Convalescent diet should be of a higher nutritive value, more easily digestible, and contain more protein, and this change from regular house diet is indicated.

Soft diet, representing an intermediate step between fluid or milk diet and convalescent or regular diet, need not be so strictly adhered to in point of food values, as a patient's appetite can be relied upon at this stage to take a sufficient quantity.

For institutions, however, it is well to have this also standardized for economy in planning.

Fluid diet, while it contains a fair amount of protein food, is of exceedingly low caloric value, and represents what may be well to give during the first day or two of any acute illness, when one wishes to rest the organism without subjecting it to protein starvation.

Milk diet, except as modified upward in the typhoid milk diets, is of use for a time, particularly in an acute or occasionally in a chronic renal condition, its great objection being that, in order to give the necessary calories for a man, one must give large amounts of milk, 3000 to 4000 c.c. (3 to 4 quarts), which would mean that the individual must consume 100 to 130 gm. (3 to 4 oz.) of protein, an unnecessary strain to put

upon excretory organs already disabled by disease. So that, while we give not more than 3000 c.c. (3 quarts) per day for milk diet, it must be remembered that this should not be indefinitely continued.

TYPHOID DIETS

Typhoid Fluid Diet (No. 1)[1]

8 A. M.: Milk and coffee, each 120 c.c. (4 oz.), 240 c.c. (8 oz.).
10 A. M.: Milk, hot or cold, 240 c.c. (8 oz.).
12 NOON: Oatmeal gruel, 120 c.c. (4 oz.), with milk, 60 c.c. (2 oz.).
2 P. M.: Milk, 240 c.c. (8 oz.).
4 P. M.: Oatmeal gruel, 120 c.c. (4 oz.), with milk, 60 c.c. (2 oz.).
6 P. M.: Custard with lactose (full cup).
8 P. M.: Hot milk, 240 c.c. (8 oz.).
10 P. M.: Whey, 180 c.c. (6 oz.), with one whole egg and sherry.
12 P. M.: Oatmeal gruel, 120 c.c. (4 oz.), milk, 60 c.c. (2 oz.).
2 A. M.: Milk, 240 c.c. (8 oz.).
4 A. M.: Broth, 240 c.c. (8 oz.), with one whole egg.
6 A. M.: Milk, 240 c.c. (8 oz.).

Approximate Values

Protein, 98 gm. ($3\frac{1}{3}$ oz.); fat, 52 gm. ($1\frac{2}{3}$ oz.); carbohydrates, 150 gm. (5 oz.); calories, 1900.

[1] F. P. Kinnicutt.

Typhoid Fluid Diet (No. 2)[1]

(*Lower Protein*)

8 A. M.: Milk and coffee, each 120 c.c. (4 oz.).
10 A. M.: Milk, hot or cold, 240 c.c. (8 oz.).
12 NOON: Oatmeal gruel, 120 c.c. (4 oz.), with milk, 60 c.c. (2 oz.).
2 P. M.: Junket with cane- and milk-sugar.
4 P. M.: Oatmeal gruel, 120 c.c. (4 oz.), with milk, 60 c.c. (2 oz.).
6 P. M.: Junket with cane- and milk-sugar.
8 P. M.: Hot milk, 240 c.c. (8 oz.).
10 P. M.: Whey, 180 c.c., with one whole egg and sherry.
12 P. M.: Oatmeal gruel, 120 c.c. (4 oz.), with milk, 60 c.c. (2 oz.).
2 A. M.: Junket with cane- and milk-sugar.
4 A. M.: Milk, 240 c.c. (8 oz.).
6 A. M.: Milk, 240 c.c. (8 oz.).
15 gm. ($\frac{1}{2}$ oz.) of lactose added to the four milk feedings.

Approximate Values

Protein, 71 gm. ($2\frac{1}{3}$ oz.); fat, 81 gm. ($2\frac{2}{3}$ oz.); carbohydrates, 160 gm. ($5\frac{1}{3}$ oz.); calories, 2300.

These typhoid fluid diets can be further augmented by the addition of the following articles:
Lactose or cane-sugar, 30 gm. (1 oz.), 120 calories.
Pea soup (see Special Recipes), 180 c.c. (1 cup, 6 oz.), 192 calories (7.5 gm. protein).

[1] F. P. Kinnicutt.

Bean soup (see Special Recipes), 180 c.c. (1 cup, 6 oz.), 242 calories (12 gm. protein).

Soda cracker (one), 30 calories (.5 gm. protein).

Cream	100 c.c. ($3\frac{1}{3}$ oz.).	500 calories.
Sugar or lactose	60 gm. (2 oz.).	
Gruel	150 c.c. (5 oz.).	

This adds protein, 5 gm. ($\frac{1}{6}$ oz.); fat, 20 gm. ($\frac{2}{3}$ oz.); carbohydrates, 75 gm. ($2\frac{1}{2}$ oz.).

Modified Milk Fluid Diets[1]

For 1000 calories a day:	Calories.
Milk, 1000 c.c. (1 quart)	700
Cream, 50 c.c. ($1\frac{2}{3}$ oz.)	100
Lactose, 50 gm. ($1\frac{2}{3}$ oz.)	200
This furnishes eight feedings, each containing:	
Milk, 120 c.c. (4 oz.)	80
Cream, 8 gm. (2 dr.)	15
Lactose, 6 gm. ($1\frac{1}{2}$ dr.)	24

For 1500 calories a day:	
Milk, 1500 c.c. ($1\frac{1}{2}$ quarts)	1000
Cream, 50 c.c. ($1\frac{2}{3}$ oz.)	100
Lactose, 100 gm. ($3\frac{1}{3}$ oz.)	400
This furnishes six feedings, each containing:	
Milk, 240 c.c. (8 oz.)	160
Cream, 8 gm. (2 dr.)	15
Lactose, 16 gm. (4 dr.)	64

[1] Coleman, American Journal of Medical Sciences, January, 1912.

For 2000 calories a day: Calories.

Milk, 1500 c.c. (1½ quarts)..... 1000
Cream, 240 c.c. (8 oz.)..... 500
Lactose, 120 gm. (4 oz.)..... 500
This furnishes seven feedings, each containing:
Milk, 210 c.c. (7 oz.)..... 140
Cream, 30 c.c. (1 oz.)..... 60
Lactose, 18 gm. (4½ dr.)..... 72

For 2500 calories a day:

Milk, 1500 c.c. (1½ quarts)..... 1000
Cream, 240 c.c. (8 oz.)..... 500
Lactose, 240 gm. (8 oz.)..... 1000
This furnishes seven feedings, each containing:
Milk, 210 c.c. (7 oz.)..... 140
Cream, 30 c.c. (1 oz.)..... 60
Lactose, 36 gm. (9 dr.)..... 144

For 3000 calories a day:

Milk, 1500 c.c. (1½ quarts)..... 1000
Cream, 480 c.c. (1 pint)..... 1000
Lactose, 240 c.c. (8 oz.)..... 1000
This furnishes eight feedings, each containing:
Milk, 180 c.c. (6 oz.)..... 120
Cream, 60 c.c. (2 oz.)..... 120
Lactose, 30 gm. (1 oz.)..... 120

For 3900 calories a day:

Milk, 1500 c.c. (1½ quarts)..... 1000
Cream, 480 c.c. (1 pint)..... 1000
Lactose, 480 gm. (16 oz.)..... 1900

This furnishes eight feedings, each containing: Calories.

Milk, 180 c.c. (6 oz.)	120
Cream, 60 c.c. (2 oz.)	120
Lactose, 60 gm. (2 oz.)	240

Typhoid Soft Diet[1]

Use cream, 40 per cent. (16 oz.), for each patient (Q. D.):

	Calories.
6.00 A. M. to 8.00 P. M.: Pasteurized milk, 180 c.c. (6 oz.)	120
Cream, 30 c.c. (1 oz.)	100
Each glass	220
Q. 2 H. Eight glasses	1760

Breakfast.

	Calories.
1 soft-boiled egg	60
2 tablespoonfuls hominy or farina (well cooked).	100
With milk, 90 c.c. (3 oz.)	60
With cream, 60 c.c. (2 oz.)	200
	420

Dinner.

	Calories.
Beef-juice, scraped beef, each 30 c.c. (1 oz.)	50
Oatmeal gruel, 240 c.c. (8 oz.)	100
With cream, 60 c.c. (2 oz.)	200
3 tablespoonfuls ice-cream	200
	550

[1] L. A. Conner, New York Hospital Diets.

Supper.	Calories.
1 soft-boiled egg	60
3 tablespoonfuls wine-jelly or custard, or oatmeal gruel, 240 c.c. (8 oz.)	100
With cream, 60 c.c. (2 oz.)	300
	460

Approximate values of this diet are protein, 101 gm. ($3\frac{1}{3}$ oz.); carbohydrate, 172 gm. ($5\frac{2}{3}$ oz.); fat, 176 gm. (6 oz.); calories, 3190.

Comments on Typhoid Fever Diet

Many cases of typhoid when seen for the first time, either in the hospital or private practice, have been ill for a number of days, and are very apt to have a diarrhea, which is not, strictly speaking, a part of their disease, but a complication, brought on by improper feeding. In such cases it is best, after the initial emptying of the intestinal canal by mild catharsis or enemata, to prescribe a diet which, while it is too low in heat units, still has a fair amount of protein, and has an added advantage over a strictly milk diet in that it is quite varied in composition. Such a diet is given in the typhoid liquid diets, and, while one could often advantageously give the ordinary fluid diet for this period, the special typhoid liquid diet furnishes almost twice as much protein and twice as many calories.

When the patient is ready for more food this list of

articles can be further reinforced by the addition of cream, lactose, eggs, and more gruel, or one can make use of one of the cream, milk, and lactose mixtures given in the diet lists devised by Dr. Warren Coleman. There is, however, a distinct advantage in the greater variety of foods in the first list, and it has been the experience of many that it is better borne. In early convalescence the soft typhoid diet will be found convenient, as representing a good amount of protein and a larger number of calories without irritating or coarse residue. There is apparently no question among clinicians nowadays that typhoid patients do better on a more liberal supply and variety of foods than on a monotonous and insufficient milk diet—complications are fewer (?) and convalescence is shortened. Coleman and Schaefer have ably demonstrated that the body is able, even in high fever, to digest, absorb, and properly utilize quantities of food sufficiently large to maintain nitrogenous equilibrium and body weight, their cases often actually gaining weight during the fever.

There never was a class of patients, however, who needed more individual care in the selection of the kind and quantity of food given than typhoid fever patients, and, while the high caloric feeding is a great step in advance, it must be individualized for the patient and always arrived at gradually; *i. e.*, it is not well to go from a low caloric to a high caloric diet without a gradual increase from one to the other.

Just here it might be added that when a patient's digestion fails to take care of the larger amounts of food, as shown by tympanites, flatulence, etc., the use of buttermilk or milk artificially ripened by some form of the lactic acid bacillus (see Special Recipes), if given in moderate amount wherever fresh milk is being used, will often stop the intestinal fermentation at once. It is almost as useful when a patient's stomach becomes disturbed, as shown by nausea or vomiting.

The transition from typhoid soft to convalescent diet is easily made, although fruits and green vegetables should be excluded at first.

SALT-POOR DIETS

SALT-POOR DIET NO. 1

Breakfast.	Gm.	Oz.
Bread	30	1
Sugar	10	$\frac{1}{3}$
Farina	60	2
Butter	30	1
Egg (1)	40	$1\frac{1}{3}$
Coffee	150 c.c.	5
	320	$10\frac{2}{3}$

Dinner.	Gm.	Oz.
Bread	30	1
Butter	20	$\frac{2}{3}$
Sugar	10	$\frac{1}{3}$
Rice	60	2
Farina	100	$3\frac{1}{3}$
Tea	150 c.c.	5
	370	$12\frac{1}{3}$

Supper.	Gm.	Oz.
Egg (1)	40	$1\frac{1}{3}$
Toast	15	$\frac{1}{2}$
Bread	30	1
Butter	15	$\frac{1}{2}$
Custard	100	$3\frac{1}{3}$
Prunes	60	2
Tea	180 c.c.	6
	440	$14\frac{2}{3}$

This contains chlorids, 1 gm.; protein, 35 gm. ($1\frac{1}{6}$ oz.); fat, 65 gm. ($2\frac{1}{6}$ oz.); carbohydrate, 140 gm. ($4\frac{2}{3}$ oz.); calories, 1300.

SALT-POOR DIET NO. 2

Breakfast.	Gm.	Oz.
Bread	60	2
Sugar	40	$1\frac{1}{3}$
Farina	60	2
Butter	35	$1\frac{1}{6}$
Egg (1)	40	$1\frac{1}{3}$
Coffee	150 c.c.	5
	385	$12\frac{5}{6}$

Dinner.	Gm.	Oz.
Egg (1)	40	$1\frac{1}{3}$
Bread	60	2
Butter	30	1
Rice	70	$2\frac{1}{3}$
Farina	100	$3\frac{1}{3}$
Tea	150 c.c.	5
	450	15

Supper.	Gm.	Oz.
Egg (1)	40	$1\frac{1}{3}$
Toast	15	$\frac{1}{2}$
Bread	60	2
Butter	30	1
Custard	100	$3\frac{1}{3}$
Prunes	60	2
Tea	180 c.c.	6
	485	$15\frac{5}{6}$

This contains chlorids, 1.3 gm; protein, 50 gm. ($1\frac{2}{3}$ oz.); fat, 100 gm. ($3\frac{1}{3}$ oz.); carbohydrate, 240 gm. (8 oz.); calories, 2100.

Salt-poor Diet No. 3

Same as convalescent diet, without broths or soups. The fish, meat, and green vegetables must be boiled in two waters to remove most of the salt. Milk, 250 c.c. (8 oz.), only allowed.[1]

Comments on Use of Salt-poor Diets

In the use of salt-poor diets, or so-called salt-"free" diets (although none of them can be actually salt free), a great step in advance has been made in the dietetic treatment of edema, particularly, but not exclusively, of renal origin. We are more indebted to Widal than to any other one man for putting this therapeutic measure on a firm basis. Of course, it is particularly useful in edema associated with a greater or lesser degree of impermeability of the kidney to salt. The two requisites for the successful use of this form of treatment are, proper selection of cases and the continued and faithful use of a diet that is as nearly salt free as possible. In other words, while the edema in many cases of this kind begins to clear up at once on this diet (although it has resisted all other physical and medical measures),

[1] In all the salt-poor diets the food should be prepared absolutely without addition of salt. Salt-free butter and bread only are to be used. No extra salt allowed.

in many of them it does not, and it is not until the patients have been on this diet for a week or two or longer that apparently the kidneys, having been spared so long, are able to regain their lost power of salt excretion, and will then go ahead and rapidly empty the subcutaneous tissue of its retained salt and water.

While it is best to determine the rapidity of the salt elimination in cases in which the edema resists the dietary, so that one can be assured that one is on the right track, a clinical diagnosis can often be made when the edema is diminished promptly. While, as already stated, this treatment is particularly indicated in a special class of renal disease, it is of great assistance in many forms of edema or even serous effusions. This is due no doubt to the fact that the kidneys are spared extra labor in the excretion of the usual amount of salt taken with the normal diet, and to the fact that the body, in the presence of a reduced salt intake, seeks salt in the tissues or serous spaces in order to keep up the normal salt concentration in the urine, as an attempt at equilibrium of the inorganic constituents of the urine is in some way automatically arranged for.

With this foreword, the use of the salt-poor diets becomes evident and needs little or no further explanation.

No. 1 should be used first, then No. 2, and finally, when safe, No. 3. The length of time each should be used is a matter for individual judgment, but No. 2

should not be used, if possible, until, all edema is gone, and has been absent long enough presumably to give the kidney rest.[1]

[1] Determination of total chlorids in urine: Dilute 10 c.c. of urine with 90 c.c. of water, add 1 or 2 drops of 25 per cent. nitric acid. Make the mixture alkaline with 10 per cent. solution of sodium carbonate, and add a few drops of 10 per cent. potassium chromate solution as an indicator. Titrate with $\frac{1}{10}$ normal silver chlorid solution. Each cubic centimeter of the silver solution used equals .00583 gm. sodium chlorid.

PURIN-FREE DIETS

Liquid Purin-free Diet

(Folin)

Whole milk	500 c.c. (16 oz.).
Cream (18 to 22 per cent. fat)	300 c.c. (10 oz.).
10 eggs (whites and yolks)	450 gm. (15 oz.).
Horlick's malted milk	200 gm. ($6\frac{2}{3}$ oz.).
Sugar	20 gm. ($\frac{2}{3}$ oz.).
NaCl	6 gm. ($\frac{1}{5}$ oz.).
Water q. s. ad.	2000 c.c. (64 oz.).
Extra water	900 c.c. (30 oz.).

Yields

Protein	139 gm. ($4\frac{2}{3}$ oz.)	2830 calories.
Fat	146 gm. ($4\frac{5}{6}$ oz.)	
Carbohydrate	225 gm. ($7\frac{1}{2}$ oz.)	

Soft Purin-free Diet[1]

6 A. M.: Milk, 180 c.c. (6 oz.).

8 A. M.—Breakfast:

Milk, 180 c.c. (6 oz.).

$1\frac{1}{2}$ slices of bread and 1 pat of butter.

2 tablespoonfuls wheatina or cream of wheat with cream, 60 c.c. (2 oz.), and 2 tablespoonfuls of sugar.

1 soft-boiled egg.

[1] Vanderbilt Clinic diet lists.

12 M.—Dinner:

Milk, 180 c.c. (6 oz.).
1 soft-boiled egg, S. O. S.
Potato with cream, 30 c.c. (1 oz.), and 1 pat of butter.
Lettuce or cabbage with dressing.
1½ slices of bread with 1 pat of butter.

3 P. M.: Milk, 180 c.c. (6 oz.).

5 P. M.—Supper:

1 soft-boiled egg, S. O. S.
Milk, 180 c.c. (6 oz.).
2½ tablespoonfuls of rice with cream, 30 c.c. (1 oz.), and 1 tablespoonful of sugar.
Crackers with butter, 1 pat.
1 cube of cheese (2 inches).
1 cup of weak tea with cream, 30 c.c. (1 oz.), and 1 teaspoonful of sugar, S. O. S.

8 P. M.: Milk, 180 c.c. (6 oz.).

Protein, 80 gm. (2⅔ oz.); fat, 112 gm (3½ oz.); carbohydrate, 207 gm. (7 oz.); calories, 2300.

DIET IN GOUT[1]

Breakfast:

fresh, cooked, or preserved fruit.
with sugar and milk or cream.
ad, toast, muffins, biscuits, butter.
style).
ght amount of coffee, tea, or cocoa.

lified from Von Noorden.

Lunch and Dinner:

Soups.—Cream, potato, or from any vegetable given below, prepared without meat or meat extract.

Eggs, any style.

Meat and Fish.—Once a day one of the following: Ham, boiled beef, boiled chicken, boiled mutton, pot roast, any boiled fish.

Vegetables.—Potatoes, sweet potatoes, cauliflower, lettuce, cabbage, spinach, okra, egg-plant, corn, Brussels sprouts, rice, macaroni, noodles.

Bread.—Crackers, white bread, toast, butter.

Desserts.—Fresh, cooked, or preserved fruit, all desserts (ice-cream, pudding, cake, pie, etc.) not flavored with coffee or chocolate, American, Swiss, and cream cheese.

Beverages.—Milk, cider, water, Vichy or any carbonated water. Grape-juice and raspberry syrup allowed.

Approximate Values to be Given

	Protein.	Carbohydrate.	Fat.	Total calories.
Men....	60 gm. (2 oz.).	350 gm. (11⅔ oz.).	60 gm. (2 oz.).	2200
Women..	50 gm. (1⅔ oz.).	300 gm. (10 oz.).	50 gm. (1⅔ oz.).	1800

PURIN-FREE ARTICLES OF DIET[1]

Milk.
Eggs.
Bread, white only (not graham or whole wheat).
Butter.

[1] Vanderbilt Clinic diet lists.

Biscuits.
Cereals (hominy, rice, farina).
Cream.
Sugar and syrup.
Jam and marmalade.
Cake.
Cream soups.
Vegetables:
- Potatoes (slight amount of purin).
- Cauliflower.
- Cabbage.
- Lettuce.
- Egg-plant.

Desserts:
- Nuts.
- Cheese.
- Ice-cream and water-ices.
- Cake (any cake except with coffee or chocolate flavor).
- Rice, bread, farina, tapioca, or cornstarch pudding.
- Custard or cocoanut pie.

The Purin Bodies in Various Food-stuffs [1]

Fish:	Purin bodies, grams per kilo.
Cod	0.5
Plaice	0.7
Salmon	1.1
Halibut	1.0

[1] Hall J. Walker, The Purin Bodies of Food Stuffs and the Rôle of Uric Acid in Health and Disease, 2d ed. rev., London, 1903.

Meat:	Purin bodies, grams per kilo.
Beef	1.3–2.0
Fat	1.1
Mutton	0.96
Fat	—
Veal	1.1
Fat	—
Pork	1.2
Fat	0.5
Ham	1.1

Meat soups (varying large amounts).

Chicken	1.2

Vegetables:

Potatoes	0.02
Rice	—
Flour (white)	—
Bread (white)	—
Oatmeal	0.53
Peas	0.39
Lentils	0.38
Beans (Haricot)	0.63
Asparagus	0.21
Cabbage	—
Lettuce	—
Cauliflower	—
Onions	0.09
Tapioca	—

Special Foods:	Purin bodies, grams per kilo.
Milk	—
Butter	—
Eggs	—
Cheese (fat)	—

Drinks:	
Beer, lager	0.12
Ale	0.14
Porter	0.15

	Per pint (500 c.c.).
Tea	1.2
Cocoa	1.0
Chocolate	0.7
Coffee	1.7
Claret	—
Sherry	—
Port	—

Comments on Purin-free Diets

Since in gout the purin metabolism is faulty, the aim of its dietetic treatment should be to furnish a food containing little or no purin bodies.

In the liquid purin-free diet, as designed by Folin, we have a diet that is useful almost exclusively for scientific purposes, when one wishes to determine the amount of endogenous uric acid that is excreted. It can, however, be used to advantage during an acute attack of gout.

The soft purin-free diet can, for the most part, be used in acute gout, and is much more palatable. The amount of protein or the total calories can be reduced or increased at will to meet the requirements of large or small individuals. The list given is sufficient for a man of 70 kilos (154 pounds). Women seldom have acute gout.

The list of purin-free articles of diet is inserted to help one prescribe a variety in case the diet is continued for some time.

The diet given specifically for gout can be modified from the purin-free list as well, and, while this diet for gout is not absolutely purin free, it is of a low purin content, and boiling the meats, particularly if they are boiled in two waters, removes a great part of the purins.

GASTRIC DIETS

Lenhartz Diet

As eggs differ in size and weight, take the total of eggs for the day of diet; beat, measure, and divide into seven feedings and put into medicine-glasses. Keep on ice and use as directed, alternating with milk.

Milk, iced, kept in bowl of cracked ice. Eggs beaten up raw and iced. Spoon kept in bowl of ice.

Patients never allowed to help themselves.

Slow feedings essential, frequent small feedings fed by spoon.

First and second days salt eggs to taste.

Third day sugar is started.

First Day

7 A. M.: Egg.
8 A. M.: Milk, 20 c.c. ($\frac{2}{3}$ oz.).
9 A. M.: Egg.
10 A. M.: Milk, 20 c.c. ($\frac{2}{3}$ oz.).
11 A. M.: Egg.
12 NOON: Milk, 15 c.c. ($\frac{1}{2}$ oz.).
1 P. M.: Egg.
2 P. M.: Milk, 15 c.c. ($\frac{1}{2}$ oz.).
3 P. M.: Egg.
4 P. M.: Milk, 15 c.c. ($\frac{1}{2}$ oz.).

5 P. M.: Egg.
6 P. M.: Milk, 15 c.c. ($\frac{1}{2}$ oz.).
7 P. M.: Egg.

Total First Day.—Eggs (raw), 2; milk, 100 c.c. ($3\frac{1}{3}$ oz.).

Second Day

7 A. M.: Egg.
8 A. M.: Milk, 35 c.c. (1 oz.).
9 A. M.: Egg.
10 A. M.: Milk, 35 c.c. (1 oz.).
11 A. M.: Egg.
12 NOON: Milk, 35 c.c. (1 oz.).
1 P. M.: Egg.
2 P. M.: Milk, 35 c.c. (1 oz.).
3 P. M.: Egg.
4 P. M.: Milk, 30 c.c. (1 oz.).
5 P. M.: Egg.
6 P. M.: Milk, 30 c.c. (1 oz.).
7 P. M.: Egg.

Total Second Day.—Eggs (raw), 3; milk, 200 c.c. ($6\frac{2}{3}$ oz.).

Third Day

7 A. M.: Egg.
Sugar, 2 gm. ($\frac{1}{2}$ dr.).
8 A. M.: Milk, 50 c.c. ($1\frac{2}{3}$ oz.).
9 A. M.: Egg.
Sugar, 3 gm. ($\frac{3}{4}$ dr.).
10 A. M.: Milk, 50 c.c. ($1\frac{2}{3}$ oz.).
11 A. M.: Egg.
Sugar, 3 gm. ($\frac{3}{4}$ dr.).
12 NOON: Milk, 50 c.c. ($1\frac{2}{3}$ oz.).

1 P. M.: Egg.
Sugar, 3 gm. (¾ dr.).
2 P. M.: Milk, 50 c.c. (1⅔ oz.).
3 P. M.: Egg.
Sugar, 3 gm. (¾ dr.).
4 P. M.: Milk, 50 c.c. (1⅔ oz.).
5 P. M.: Egg.
Sugar, 3 gm. (¾ dr.).
6 P. M.: Milk, 50 c.c. (1⅔ oz.).
7 P. M.: Egg.
Sugar, 3 gm. (¾ dr.).

Total Third Day.—Eggs (raw), 4; milk, 300 c.c. (10 oz.); sugar, 20 gm. (5 dr.).

Fourth Day

7 A. M.: Egg.
Sugar, 2 gm. (½ dr.).
8 A. M.: Milk, 70 c.c. (2⅓ oz.).
9 A. M.: Egg.
Sugar, 3 gm. (¾ dr.).
10 A. M.: Milk, 70 c.c. (2⅓ oz.).
11 A. M.: Egg.
Sugar, 3 gm. (¾ dr.).
12 NOON: Milk, 65 c.c. (2 oz.).
1 P. M.: Egg.
Sugar, 3 gm. (¾ dr.).
2 P. M.: Milk, 65 c.c. (2 oz.).
3 P. M.: Egg.
Sugar, 3 gm. (¾ dr.).
4 P. M.: Milk, 65 c.c. (2 oz.).
5 P. M.: Egg.
Sugar, 3 gm. (¾ dr.).

6 P. M.: Milk, 65 c.c. (2 oz.).
7 P. M.: Egg.
Sugar, 3 gm. ($\frac{3}{4}$ dr.).

Total Fourth Day.—Eggs (raw), 5; milk, 400 c.c. ($13\frac{1}{3}$ oz.); sugar, 20 gm. (5 dr.).

Fifth Day

7 A. M.: Egg.
Sugar, 4 gm. (1 dr.).
8 A. M.: Milk, 80 c.c. ($2\frac{2}{3}$ oz.).
9 A. M.: Egg.
Sugar, 4 gm. (1 dr.).
10 A. M.: Milk, 80 c.c. ($2\frac{2}{3}$ oz.).
11 A. M.: Egg.
Sugar, 4 gm. (1 dr.).
12 NOON: Milk, 80 c.c. ($2\frac{2}{3}$ oz.).
1 P. M.: Egg.
Sugar, $4\frac{1}{2}$ gm. (1 dr.).
2 P. M.: Milk, 80 c.c. ($2\frac{2}{3}$ oz.).
3 P. M.: Egg.
Sugar, $4\frac{1}{2}$ gm. (1 dr.).
4 P. M.: Milk, 80 c.c. ($2\frac{2}{3}$ oz.).
5 P. M.: Egg.
Sugar, $4\frac{1}{2}$ gm. (1 dr.).
6 P. M.: Milk, 90 c.c. (3 oz.).
7 P. M.: Egg.
Sugar, $4\frac{1}{2}$ gm. (1 dr.).

Total Fifth Day.—Eggs (raw), 6; milk, 500 c.c. ($16\frac{2}{3}$ oz.); sugar, 30 gm. (1 oz.).

Sixth Day

7 A. M.: Egg.
Sugar, 4 gm. (1 dr.).

8 A. M.: Milk, 100 c.c. ($3\frac{1}{3}$ oz.).
9 A. M.: Egg.
Sugar, $4\frac{1}{2}$ gm. (1 dr.).
Scraped beef, 12 gm. (3 dr.).
10 A. M.: Milk, 100 c.c. ($3\frac{1}{3}$ oz.).
11 A. M.: Egg.
Sugar, $4\frac{1}{2}$ gm. (1 dr.).
12 NOON: Milk, 100 c.c. ($3\frac{1}{3}$ oz.).
1 P. M.: Egg.
Sugar, $4\frac{1}{2}$ gm. (1 dr.).
Scraped beef, 12 gm. (3 dr.).
2 P. M.: Milk, 100 c.c. ($3\frac{1}{3}$ oz.).
3 P. M.: Egg.
Sugar, $4\frac{1}{2}$ gm. (1 dr.).
4 P. M.: Milk, 100 c.c. ($3\frac{1}{3}$ oz.).
5 P. M.: Egg.
Sugar, 4 gm. (1 dr.).
Scraped beef, 12 gm. (3 dr.).
6 P. M.: Milk, 100 c.c. ($3\frac{1}{3}$ oz.).
7 P. M.: Egg.
Sugar, $4\frac{1}{2}$ gm. (1 dr.).

Total Sixth Day.—Eggs (raw), 7; milk, 600 c.c. (20 oz.); sugar, 30 gm. (1 oz.); scraped beef, 36 gm. (9 dr.).

Seventh Day

7 A. M.: 1 soft-boiled egg.
8 A. M.: Milk, 100 c.c. ($3\frac{1}{3}$ oz.).
9 A. M.: Egg.
Sugar, 13 gm. (3 dr.).
10 A. M.: Milk, 100 c.c. ($3\frac{1}{3}$ oz.).
Scraped beef, 23 gm. (6 dr.).
Boiled rice, 33 gm. (1 oz.).

11 A. M.: 1 soft-boiled egg.
12 NOON: Milk, 125 c.c. (4 oz.).
1 P. M.: Egg.
Sugar, 13 gm. (3 dr.).
2 P. M.: Milk, 125 c.c. (4 oz.).
Scraped beef, 23 gm. (6 dr.).
Boiled rice, 33 gm. (1 oz.).
3 P. M.: 1 soft-boiled egg.
4 P. M.: Milk, 125 c.c. (4 oz.).
5 P. M.: Egg.
Sugar, 14 gm. ($3\frac{1}{3}$ dr.).
6 P. M.: Milk, 125 c.c. (4 oz.).
Scraped beef, 24 gm. (6 dr.).
Boiled rice, 34 gm. (1 oz.).
7 P. M.: 1 soft-boiled egg.

Total Seventh Day.—Eggs (raw), 4; soft boiled, 4; milk, 700 c.c. ($23\frac{1}{3}$ oz.); sugar, 40 gm. ($1\frac{1}{3}$ oz.); scraped beef, 70 gm. ($2\frac{1}{3}$ oz.); boiled rice, 100 gm. ($3\frac{1}{3}$ oz.), served with beef-juice.

Eighth Day

Diet changes on the eighth day, requiring only 4 raw eggs, which may be divided into three feedings. The other 4 eggs are to be soft boiled and given as directed by diet.

7 A. M.: 1 soft-boiled egg.
8 A. M.: Milk, 135 c.c. ($4\frac{1}{2}$ oz.).
9 A. M.: Egg.
Sugar, 13 gm. (3 dr.).
10 A. M.: Milk, 133 c.c. ($4\frac{1}{2}$ oz.).
Scraped beef, 23 gm. (6 dr.).
Boiled rice, 33 gm. (1 oz.).

11 A. M.: 1 soft-boiled egg.
Zwieback, 10 gm. ($2\frac{1}{2}$ dr.).
12 NOON: Milk, 133 c.c. ($4\frac{1}{2}$ oz.).
1 P. M.: Egg.
Sugar, 13 gm. (3 dr.).
2 P. M.: Milk, 133 c.c. ($4\frac{1}{2}$ oz.).
Scraped beef, 23 gm. (6 dr.).
Boiled rice, 33 gm. (1 oz.).
3 P. M.: 1 soft-boiled egg.
4 P. M.: Milk, 133 c.c. ($4\frac{1}{2}$ oz.).
5 P. M.: Egg.
Sugar, 14 gm. ($3\frac{1}{2}$ dr.).
Zwieback, 10 gm. ($2\frac{1}{2}$ dr.).
6 P. M.: Milk, 133 c.c. ($4\frac{1}{2}$ oz.).
Scraped beef, 24 gm. (6 dr.).
Boiled rice, 34 gm. (1 oz.).
7 P. M.: 1 soft-boiled egg.

Total Eighth Day.—Eggs (raw), 4; soft boiled, 4; milk, 800 c.c. ($26\frac{2}{3}$ oz.); scraped beef, 70 gm. ($2\frac{1}{3}$ oz.); boiled rice, 100 gm. ($3\frac{1}{3}$ oz.); zwieback, 20 gm. (5 dr.); sugar, 40 gm. ($1\frac{1}{3}$ oz.).

Ninth Day

7 A. M.: 1 soft-boiled egg.
8 A. M.: Milk, 150 c.c. (5 oz.).
9 A. M.: Egg.
Sugar, 13 gm. (3 dr.).
10 A. M.: Milk, 150 c.c. (5 oz.).
Scraped beef, 23 gm. (6 dr.).
Boiled rice, 66 gm. (2 oz.).
11 A. M.: 1 soft-boiled egg.
Zwieback, 20 gm. (5 dr.).

12 NOON: Milk, 150 c.c. (5 oz.).
1 P. M.: Egg.
Sugar, 13 gm. (3 dr.).
2 P. M.: Milk, 150 c.c. (5 oz.).
Scraped beef, 23 gm. (6 dr.).
Boiled rice, 67 gm. (2 oz.).
3 P. M.: 1 soft-boiled egg.
Zwieback, 20 gm. (5 dr.).
4 P. M.: Milk, 150 c.c. (5 oz.).
5 P. M.: Egg.
Sugar, 14 gm. ($3\frac{1}{2}$ dr.).
6 P. M.: Milk, 150 c.c. (5 oz.).
Scraped beef, 24 gm. (6 dr.).
Boiled rice, 67 gm. (2 oz.).
7 P. M.: 1 soft-boiled egg.

Total Ninth Day.—Eggs (raw), 4; cooked, 4; milk, 900 c.c. (30 oz.); sugar, 40 gm. ($1\frac{1}{3}$ oz.); scraped beef, 70 gm. ($2\frac{1}{3}$ oz.); rice, 200 gm. ($6\frac{2}{3}$ oz.); zwieback, 40 gm. ($1\frac{1}{3}$ oz.), or toast, 20 gm. (5 dr.).

Tenth Day

7 A. M.: 1 soft-boiled egg.
8 A. M.: Milk, 166 c.c. ($5\frac{1}{2}$ oz.).
9 A. M.: Egg.
Sugar, 13 gm. (3 dr.).
10 A. M.: Milk, 168 c.c. ($5\frac{1}{2}$ oz.).
Scraped beef, 23 gm. (6 dr.).
Boiled rice, 66 gm. (2 oz.).
11 A. M.: 1 soft-boiled egg.
Zwieback, 20 gm. (5 dr.).
Butter, 4 gm. (1 dr.).

12 NOON: Cooked chopped chicken, 25 gm. (6 dr.).
Milk, 166 c.c. ($5\frac{1}{2}$ oz.).
1 P. M.: Egg.
Sugar, 13 gm. (3 dr.).
2 P. M.: Milk, 166 c.c. ($5\frac{1}{2}$ oz.).
Scraped beef, 23 gm. (6 dr.).
Boiled rice, 66 gm. (2 oz.).
Butter, 4 gm. (1 dr.).
3 P. M.: 1 soft-boiled egg.
Zwieback, 20 gm. (5 dr.).
Butter, 4 gm. (1 dr.).
4 P. M.: Cooked chopped chicken, 25 gm. (6 dr.).
5 P. M.: Egg.
Sugar, 14 gm. ($3\frac{1}{2}$ dr.).
6 P. M.: Milk, 166 c.c. ($5\frac{1}{2}$ oz.).
Scraped beef, 24 gm. (6 dr.).
Boiled rice, 67 gm. (2 oz.).
Butter, 4 gm. (1 dr.).
7 P. M.: 1 soft-boiled egg.

Total Tenth Day.—Eggs (raw), 4; cooked, 4; milk, 1000 c.c. ($33\frac{1}{3}$ oz.); sugar, 40 gm. ($1\frac{1}{3}$ oz.); scraped beef, 70 gm. ($2\frac{1}{3}$ oz.); boiled rice, 200 gm. ($6\frac{2}{3}$ oz.); zwieback, 40 gm. ($1\frac{1}{3}$ oz.), or toast, 20 gm. (5 dr.); chicken, 50 gm. ($1\frac{2}{3}$ oz.); butter, 20 gm. (5 dr.).

Eleventh Day

7 A. M.: 1 soft-boiled egg.
Milk, 250 c.c. ($8\frac{1}{3}$ oz.).
Zwieback, 10 gm. ($2\frac{1}{2}$ dr.).
Butter, 4 gm. (1 dr.).

8 A. M.: Egg.
Sugar, 13 gm. (3 dr.).
Scraped beef, 20 gm. (5 dr.).
Boiled rice, 75 gm. ($2\frac{1}{2}$ oz.).
Zwieback, 10 gm. ($2\frac{1}{2}$ dr.).
Butter, 6 gm. ($1\frac{1}{2}$ dr.).

11 A. M.: 1 soft-boiled egg.
Milk, 250 c.c. ($8\frac{1}{3}$ oz.).
Butter, 6 gm. ($1\frac{1}{2}$ dr.).
Zwieback, 10 gm. ($2\frac{1}{2}$ dr.).

1 P. M.: Egg.
Sugar, 13 gm. (3 dr.).
Cooked chopped chicken, 25 gm. (6 dr.).
Boiled rice, 75 gm. ($2\frac{1}{2}$ oz.).

3 P. M.: 1 soft-boiled egg.
Milk, 250 c.c. ($8\frac{1}{3}$ oz.).
Scraped beef, 20 gm. (5 dr.).
Boiled rice, 75 gm. ($2\frac{1}{2}$ oz.).
Zwieback, 10 gm. ($2\frac{1}{2}$ dr.).
Butter, 6 gm. ($1\frac{1}{2}$ dr.).

5 P. M.: Egg.
Sugar, 14 gm. ($3\frac{1}{2}$ dr.).
Cooked chopped chicken, 25 gm. (6 dr.).
Boiled rice, 75 gm. ($2\frac{1}{2}$ oz.).
Butter, 6 gm. ($1\frac{1}{2}$ dr.).

7 P. M.: 1 soft-boiled egg.
Milk, 250 c.c. ($8\frac{1}{3}$ oz.).
Zwieback, 10 gm. ($2\frac{1}{2}$ dr.).
Butter, 6 gm. ($1\frac{1}{2}$ dr.).
Scraped beef, 30 gm. (1 oz.).

Total Eleventh Day.—Eggs (raw), 4; cooked, 4; milk, 1000 c.c. ($33\frac{1}{3}$ oz.); butter, 40 gm. ($1\frac{1}{3}$ oz.); sugar,

40 gm. (1⅓ oz.); scraped beef, 70 gm. (2⅓ oz.); boiled rice, 300 gm. (30 oz.); zwieback, 60 gm. (2 oz.); chicken, 50 gm. (1⅔ oz.).

Twelfth Day.

7 A. M.: 1 soft-boiled egg.
Milk, 250 c.c. (8⅓ oz.).
Zwieback, 10 gm. (2½ dr.).
Butter, 4 gm. (1 dr.).

9 A. M.: Egg.
Sugar, 13 gm. (3 dr.).
Scraped beef, 35 gm. (1 oz.).
Boiled rice, 75 gm. (2½ oz.).
Zwieback, 10 gm. (2½ dr.).
Butter, 6 gm. (1½ dr.).

11 A. M.: 1 soft-boiled egg.
Milk, 250 c.c. (8⅓ oz.).
Zwieback, 20 gm. (5 dr.).
Butter, 6 gm. (1½ dr.).

1 P. M.: Egg.
Sugar, 13 gm. (3 dr.).
Cooked chopped chicken, 25 gm. (6 dr.).
Boiled rice, 75 gm. (2½ oz.).
Zwieback, 10 gm. (2½ dr.).
Butter, 6 gm. (1½ dr.).

3 P. M.: 1 soft-boiled egg.
Milk, 250 c.c. (8⅓ oz.).
Scraped beef, 35 gm. (1 oz.).
Boiled rice, 50 gm. (1⅔ oz.).
Zwieback, 10 gm. (2½ dr.).
Butter, 6 gm. (1½ dr.).

5 P. M.: Egg.
Sugar, 14 gm. ($3\frac{1}{2}$ dr.).
Cooked chopped chicken, 25 gm. (6 dr.).
Boiled rice, 75 gm. ($2\frac{1}{2}$ oz.).
Zwieback, 10 gm. ($2\frac{1}{2}$ dr.).
Butter, 6 gm. ($1\frac{1}{2}$ dr.).

7 P. M.: 1 soft-boiled egg.
Milk, 250 c.c. ($8\frac{1}{3}$ oz.).
Zwieback, 10 gm. ($2\frac{1}{2}$ dr.).
Butter, 6 gm. ($1\frac{1}{2}$ dr.).

Total Twelfth Day.—Eggs (raw), 4; cooked, 4; milk, 1000 c.c. ($33\frac{1}{3}$ oz.); sugar, 40 gm. ($1\frac{1}{3}$ oz.); scraped beef, 70 gm. ($2\frac{1}{3}$ oz.); boiled rice, 300 gm. (10 oz.); zwieback, 80 gm. ($2\frac{2}{3}$ oz.); chicken, 50 gm. ($1\frac{2}{3}$ oz.); butter, 40 gm. ($1\frac{1}{2}$ oz.).

Thirteenth Day

7 A. M.: 1 soft-boiled egg.
Milk, 142 c.c. ($4\frac{2}{3}$ oz.).
Zwieback, 10 gm. ($2\frac{1}{2}$ dr.).
Butter, 4 gm. (1 dr.).

9 A. M.: Egg.
Sugar, 13 gm. (3 dr.).
Milk, 142 c.c. ($4\frac{2}{3}$ oz.).
Scraped beef, 20 gm. (5 dr.).
Boiled rice, 75 gm. ($2\frac{1}{2}$ oz.).
Zwieback, 20 gm. (5 dr.).
Butter, 6 gm. ($1\frac{1}{2}$ dr.).

11 A. M.: 1 soft-boiled egg.
Milk, 144 c.c. (5 oz.).
Zwieback, 10 gm. ($2\frac{1}{2}$ dr.).
Butter, 6 gm. ($1\frac{1}{2}$ dr.).

1 P. M.: Egg.
Sugar, 13 gm. (3 dr.).
Milk, 142 c.c. ($4\frac{2}{3}$ oz.).
Cooked chopped chicken, 25 gm. (6 dr.).
Boiled rice, 75 gm. ($2\frac{1}{2}$ oz.).
Zwieback, 10 gm. ($2\frac{1}{2}$ dr.).
Butter, 6 gm. ($1\frac{1}{2}$ dr.).

3 P. M.: 1 soft-boiled egg.
Milk, 144 c.c. (5 oz.).
Scraped beef, 20 gm. (5 dr.).
Boiled rice, 75 gm. ($2\frac{1}{2}$ oz.).
Zwieback, 10 gm. ($2\frac{1}{2}$ dr.).
Butter, 6 gm. ($1\frac{1}{2}$ dr.).

5 P. M.: Egg.
Sugar, 14 gm. ($3\frac{1}{2}$ dr.).
Milk, 142 c.c. (5 oz.).
Cooked chopped chicken, 25 gm. (6 dr.).
Boiled rice, 75 gm. ($2\frac{1}{2}$ oz.).
Zwieback, 10 gm. ($2\frac{1}{2}$ dr.).
Butter, 6 gm. ($1\frac{1}{2}$ dr.).

7 P. M.: 1 soft-boiled egg.
Milk, 144 c.c. (5 oz.).
Zwieback, 10 gm. ($2\frac{1}{2}$ dr.).
Butter, 6 gm. ($1\frac{1}{2}$ dr.).

Total Thirteenth Day.—Eggs (raw), 4; cooked, 4; milk, 1000 c.c. ($33\frac{1}{3}$ oz.); sugar, 40 gm. ($1\frac{1}{3}$ oz.); scraped beef, 70 gm. ($2\frac{1}{3}$ oz.); boiled rice, 300 gm. (10 oz.); zwieback, 80 gm. ($2\frac{2}{3}$ oz.); chicken, 50 gm. ($1\frac{2}{3}$ oz.); butter, 40 gm. ($1\frac{1}{3}$ oz.).

Fourteenth Day

7 A. M.: 1 soft-boiled egg.
Minced chop.
Buttered toast.
Milk, 142 c.c. ($4\frac{2}{3}$ oz.).

9 A. M.: Boiled rice.
Buttered zwieback.
Custard.
Milk, 142 c.c. ($4\frac{2}{3}$ oz.).

11 A. M.: 1 soft-boiled egg.
Buttered zwieback.
Junket.
Milk, 144 c.c. (5 oz.).

1 P. M.: Minced chicken.
Boiled rice.
Buttered zwieback.
Custard.
Milk, 142 c.c. ($4\frac{2}{3}$ oz.).

3 P. M.: 1 soft-boiled egg.
Cooked scraped beef.
Boiled rice.
Buttered tost.
Milk, 144 c.c. (5 oz.).

5 P. M.: Minced chicken.
Boiled rice.
Buttered zwieback.
Custard.
Milk, 142 c.c. ($4\frac{2}{3}$ oz.).

7 P. M.: 1 soft-boiled egg.
Buttered toast.
Milk, 144 c.c. (5 oz.).

Total Fourteenth Day.—Eggs (raw), 4; cooked, 4;

milk, 1000 c.c. ($33\frac{1}{3}$ oz.); sugar, 40 gm. ($1\frac{1}{3}$ oz.); scraped beef, 70 gm. ($2\frac{1}{3}$ oz.); boiled rice, 300 gm. (10 oz.); zwieback, 100 gm. ($3\frac{1}{3}$ oz.); butter, 40 gm. ($1\frac{1}{3}$ oz.) chicken, 50 gm. ($1\frac{2}{3}$ oz.). (Recapitulation of Lenhartz Diet, p. 49.)

Convalescent Gastric Diets, No. 1[1]

Breakfast: Boiled milk with cocoa or coffee.
Any cereal, strained, with cream.
Soft toast, buttered.

11 A. M.: Glass of milk.

Dinner: Purée of potatoes, peas, or beans with toast soaked in it, or boiled rice, with milk or cream.
Junket or custard, or jelly or tapioca pudding.

4 P. M.: Glass of milk with beaten egg in it.

Supper: 2 soft-boiled eggs.
Soft toast.
Glass of milk.

9.30 P. M.: Glass of milk, with beaten egg in it.

Convalescent Gastric Diets, No. 2[2]

Breakfast: Boiled milk, with a little coffee or cocoa.
Any cereal, strained, with cream.
Dry toast, buttered.
1 egg.

11 A. M.: Glass of malted milk.

Lunch: 2 soft-boiled or scrambled eggs, or fresh boiled fish in place of eggs.
A little broiled bacon (eating the fat and not the lean.)
Toast and milk.

[1] T. C. Janeway. [2] Ibid.

Recapitulation of Lenhartz Diet

Day.	Calories.	Eggs.	Milk.	Sugar.	Scraped beef.	Boiled rice.	Zwieback.	Butter.	Chicken.
1	280	Raw 2	100 c.c. (3⅓ oz.)						
2	470	Raw 3	200 c.c. (6⅔ oz.)						
3	637	Raw 4	300 c.c. (10 oz.)	20 gm. (5 dr.)					
4	777	Raw 5	400 c.c. (13⅓ oz.)	20 gm. (5 dr.)					
5	966	Raw 6	500 c.c. (16⅔ oz.)	30 gm. (1 oz.)					
6	1135	Raw 7	600 c.c. (20 oz.)	30 gm. (1 oz.)	36 gm. (9 dr.)				
7	1580	Raw 4, soft 4	700 c.c. (23⅓ oz.)	40 gm. (1⅓ oz.)	70 gm. (2⅓ oz.)	100 gm. (3⅓ oz.)			
8	1720	Raw 4, soft 4	800 c.c. (26⅔ oz.)	40 gm. (1⅓ oz.)	70 gm. (2⅓ oz.)	100 gm. (3⅓ oz.)	20 gm. (⅔ oz.)		
9	2138	Raw 4, soft 4	900 c.c. (30 oz.)	40 gm. (1⅓ oz.)	70 gm. (2⅓ oz.)	200 gm. (6⅔ oz.)	40 gm. (1⅓ oz.) or toast, 20 gm. (⅔ oz.)		
10	2478	Raw 4, soft 4	1000 c.c. (33⅓ oz.)	40 gm. (1⅓ oz.)	70 gm. (2⅓ oz.)	200 gm. (6⅔ oz.)	40 gm. (1⅓ oz.) or toast, 20 gm. (⅔ oz.)	20 gm. (⅔ oz.)	50 gm. (1⅔ oz.)
11	2941	Raw 4, soft 4	1000 c.c. (33⅓ oz.)	40 gm. (1⅓ oz.)	70 gm. (2⅓ oz.)	300 gm. (10 oz.)	60 gm. (2 oz.)	40 gm. (1⅓ oz.)	50 gm. (1⅔ oz.)
12	2941	Raw 4, soft 4	1000 c.c. (33⅓ oz.)	40 gm. (1⅓ oz.)	70 gm. (2⅓ oz.)	300 gm. (10 oz.)	80 gm. (2⅔ oz.)	40 gm. (1⅓ oz.)	50 gm. (1⅔ oz.)
13	3007	Raw 4, soft 4	1000 c.c. (33⅓ oz.)	40 gm. (1⅓ oz.)	70 gm. (2⅓ oz.)	300 gm. (10 oz.)	80 gm. (2⅔ oz.)	40 gm. (1⅓ oz.)	50 gm. (1⅔ oz.)
14	3007	Same as the thirteenth day.							

Dinner: Purée of potatoes, rice, barley, peas, asparagus, celery, or beans.
Buttered toast.
Rare beefsteak broiled, or lamb chop broiled, roast beef or lamb.
Roast or broiled chicken or minced chicken, with well-cooked rice or a well-baked potato with butter.
Junket or custard, jelly or tapioca pudding.

10.30 P. M.: Glass of milk with lime-water.

Comments on Gastric Diets

Stomach.—The reputation of the Lenhartz diet in the treatment of peptic ulcer is too well established to need comment; one or two things only might be said in regard to its use. In the first place, in this country there is a deep-rooted and reasonable prejudice against the use of any hard substance in the diet of gastric ulcer, either acute or chronic, and wherever this occurs in the Lenhartz diet it would seem wise to substitute some soft substance—*e. g.*, soaked toast or bread in place of dry zwieback. Then, too, the rapidity with which this routine can be carried out varies with different persons, and it is often necessary to go more slowly than the regular schedule.

Before the introduction of this diet, it had been thought necessary to starve, or practically starve, patients with acute peptic ulcer for a week or two,

except for uncertain attempts at rectal feeding. Lenhartz went to the other extreme, and taught that one could begin at once with advantage to feed these cases, even in the face of hemorrhage, feeling that patients would do better if given food, as starvation makes it more difficult for them to further the process of repair. His idea was to furnish a highly albuminous, bland food in gradually increasing amounts, and during the feeding hours always keeping something in the stomach for the hydrochloric acid to combine with, which would otherwise keep the ulcerated surface irritated, *i. e.*, if free. A period of twelve hours' rest is given the stomach. A convenient method for using the Lenhartz diet is to have each day's diet written on a card which is hung with the patient's chart. The cards are changed every day as the ration is increased.

To many internists, however, it also seems a wise measure to give the stomach absolute rest for from forty-eight to seventy-two hours or even longer (up to one week), particularly in acute hemorrhagic cases, before beginning any mode of gastric feeding, during which time, or, at all events, for the first two or three days, normal salt solution by rectum will furnish all the fluids necessary. If it seems best to rest the stomach longer than two days, it is usually best to furnish some food by rectal alimentation. As usually done, with a thick mixture of eggs, milk, flour, etc., this form of feeding is absolutely useless, and, as proved by numerous experiments

of the author and others, almost nothing is absorbed. If, however, milk is given by rectum, which has been first sterilized and then fully peptonized for two hours or more or until it becomes watery, thin, and of a greenish-yellow color, and then scalded to kill the bacteria, which, of course, increase during the two hours or more at incubation temperature, a certain amount of protein and calories can be furnished to the organism. To be sure, this is entirely insufficient, but still enough to help maintain strength. This milk can be further reinforced by a glucose or maltose addition, although care must be taken that its presence does not increase the rectal peristalsis and result in failure to retain the enemata. The author's usual dietetic treatment of these cases is to starve for forty-eight hours, giving saline by rectum, 8 to 16 oz. every four to six hours, with the foot of the bed elevated. Then begin with rectal feeding of fully peptonized milk, 8 to 16 oz. every four to six hours, depending on the ability of the patient to hold it. Given through a rectal tube inserted fairly high, with the foot of the bed well raised and kept so for at least an hour after feedings, there is seldom any difficulty in the patient's retaining it. To each rectal feeding may be added from 1 to $1\frac{1}{2}$ oz. of glucose or maltose, first thoroughly dissolved in a little hot water. This rectal feeding is kept up for several days, or until the mouth feedings, which can begin from the third to the sixth day, are more nearly

adequate to supply the needed nourishment. After the seventh day of the Lenhartz diet, it is often best to increase it every other day instead of every day, or in some cases to work toward the use of the Convalescent Gastric Diets Nos. 1 and 2. The lower colon should be washed out once daily with saline in order to keep the mucous membrane in a clean condition. Under certain circumstances rectal feeding is impracticable; in these cases, particularly if mild, or the patient robust, it may be dispensed with.

The dietetic treatment of ambulatory cases of chronic gastric or duodenal ulceration has a very distinct place in therapeutics, for many of these cases are apparently well, except for the characteristic epigastric pain which comes on at varying times after meals, and refuse the suggestion of taking an ulcer "cure," as they will not give the necessary time. These cases are often helped surprisingly if they are put on a diet for two full weeks of milk, soft-boiled eggs (one to two minutes), and cream, given somewhat as follows:

At 8 A. M., 1 P. M., and 7 P. M.: 2 glasses of milk (and cream); 2 soft-boiled eggs.

At 11 A. M., 4 P. M., and 10 P. M.: $1\frac{1}{2}$ glasses of milk and cream.

This gives: Milk, 2040 c.c. (68 oz.); cream, 480 c.c. (16 oz.); 6 eggs.

Protein, 102 gm. ($3\frac{1}{2}$ oz.); fat, 200 gm. ($6\frac{3}{4}$ oz.); carbohydrate, 123 gm. (4 oz.); calories, 2200.

At the end of ten days, if this has been well taken, and there has been no pain for several days, the patient may be allowed well cooked farina twice a day (1 or 2 tablespoonfuls).

At the end of the two weeks other soft foods are gradually added, such as any thin cereal, soft toast, custard, finely cut white meat of boiled chicken, boiled cod or halibut, then baked potatoes, chopped steak, and anything which is soft and without acid or excess of salt.

Many cases will go for months or years after such a course of diet without a return of symptoms. These cases should never eat hard or irritating foods, such as berries with seeds, figs, hard toast, raw vegetables, etc.; acids and condiments as well should be avoided.

The *convalescent gastric diets* will be found of use after acute gastritis or following a Lenhartz ulcer cure, for it is wise to insist that for some weeks the patient shall put into the stomach only the softest foods possible.

The dietary treatment of duodenal ulcer is quite the same as that for gastric, and it is not always possible to differentiate between them clinically.[1]

[1] In connection with the dietary treatment of these cases of chronic ulcer of the stomach or duodenum, the use of subnitrate of bismuth in dram doses, with 2 ounces of water on early morning fasting stomach, is almost always of the greatest assistance in stopping the pain. This is often advantageously preceded by washing the stomach clean, then with silver nitrate solution, beginning 1:6000 and increasing daily until 1:2000 is used, wash again until all trace of silver disappears. This can be continued daily for seven to ten days, then every other day, twice or once a week, until all symptoms are gone.

GASTRIC HYPERACIDITY

The dietetic treatment of a hyperacid gastric condition, of course, depends largely upon the underlying cause of the hyperacidity; thus, if it is due to ulcer of the stomach or duodenum, the proper diet for these conditions is indicated. There are cases, however, in which the hyperacidity is a symptom of indefinite and apparently of mild origin in which a modified diet is of use.

The principle upon which this diet is constructed is based upon the fact that food which is chemically, thermally, or mechanically irritating, or which stays a long time in the stomach, is almost sure to increase the hyperacidity. Hence, these things should be omitted from the diet and only bland foods used. The other underlying principle of the diet is that it should be of a high protein value, in order to offer a large amount of this element to combine with the free hydrochloric acid which is in excess in this condition.

The protein should preferably be of the least stimulating variety, hence meat is allowed only in small amount. The best kind of animal protein being that contained in eggs, milk, and boiled fish.

Diet Useful in Gastric Hyperacidity

May take:

Raw oysters.

Soups: Cream or purée (except tomato).

Fish: Fresh cod, halibut, bass, boiled with cream sauce or broiled.

Meat: Beef well done (without gristle, fat, or gravy), chicken, turkey, guinea-hen, lamb (without fat), once daily.

Vegetables: All soft-boiled green vegetables, except cabbage, cauliflower, brussel sprouts, or turnips. Baked white potato may be used moderately. Rice or macaroni.

Cheese: Any mild variety, but better without this at first.

Desserts: Cream and egg desserts of all sorts, *e. g.*, blanc mange, Bavarian cream, floating island, cup custard, junket, soft rice or bread puddings. Gelatin desserts made with little flavoring. Very little sugar used in all desserts. Fruit, none, except when constipation is a marked feature, then stewed soft fruits may be taken in good amount, but must be cooked with very little sugar and are best taken with or after a meal, never before. Cream may usually be freely used.

Bread: Toast, stale bread, roll. (Fresh butter or salt butter freshened by working it over in fresh water.)

Drinks: Weak tea, cocoa, water, and milk.

Cereals: Fine-grained varieties, well cooked.

Eggs: In all forms except fried.

Foods to be avoided:

All sour, spiced, or peppery foods, condiments, salt foods, chow-chow, etc. Sweets, fried foods.

Very hot or very cold food or drinks.

Rough hard substances, such as seeds, skins of fruit or vegetables, corn, uncooked vegetables.

Coffee, wines, liquors, beer.

Hot breads, pies, cakes, syrups, etc.

DIABETIC DIETS

Standard Strict Diet[1]

Breakfast: 2 eggs.
Ham, 90 gm. (3 oz.).
Coffee with 45 gm. (1½ oz.) cream.
Butter, 15 gm. (½ oz.) on the biscuit during the test period; cooked with the eggs if no biscuit or bread is taken.

Luncheon: Meat (steak or chops), 120 gm. (¼ pound).
Green vegetables from list, 2 tablespoonfuls.
White wine, 2 claret glasses (6 oz.), or whisky or brandy, 2 tablespoonfuls (1 oz.).
Butter, 15 gm. (½ oz.), with the green vegetable, if no buscuit or bread is taken.

Afternoon tea with 15 gm. (½ oz.) of cream.

Dinner: Any clear soup.
Fish, 90 gm. (3 oz.).
Meat (beef, mutton, turkey, or chicken), 120 gm. (¼ pound).
Green vegetables from list, 2 tablespoonfuls.
Salad with 15 gm. (½ oz.) of oil in the dressing.

[1] T. C. Janeway in Musser and Kelly, Practical Therapeutics.

Cream cheese, 30 gm. (1 oz.).
White wine, 2 claret glasses (6 oz.), or whisky or brandy, 2 tablespoonfuls (1 oz.).
Demi-tasse of coffee.
Butter, 30 gm. (1 oz.) on the fish, meat, and green vegetables if no bread or biscuit is taken.

Bedtime: Bouillon with 1 raw egg.

Protein, 112 gm. ($3\frac{2}{3}$ oz.); nitrogen, 18 gm. ($4\frac{1}{2}$ dr.); fats, 160 gm. ($5\frac{1}{2}$ oz.); calories, 2200; omitting ham, protein, 94 gm. (3 oz.); nitrogen, 15 gm. ($3\frac{3}{4}$ dr.).

For convenience in determining the carbohydrate tolerance the following biscuits may be used, as the percentage of carbohydrate is practically constant.

Huntley & Palmer breakfast biscuit contains 5 gm. carbohydrate. Uneeda biscuit contains 4.6 gm. carbohydrate (Mosenthal).

Standard Diet with Restricted Protein[1]

Breakfast: 2 eggs.
Bacon, 15 gm. ($\frac{1}{2}$ oz.).
Coffee, with 45 gm. ($1\frac{1}{2}$ oz.) of cream.
Butter, 20 gm. ($\frac{2}{3}$ oz.).

Luncheon: 1 egg.
Bacon, 15 gm. ($\frac{1}{2}$ oz.).
Meat (lamb-chops, ham, or beefsteak), 60 gm. (2 oz.).
Salad, with 15 gm. ($\frac{1}{2}$ oz.) of oil in the dressing.

[1] T. C. Janeway in Musser and Kelly, Practical Therapeutics.

White wine, 2 claret glasses, 180 c.c. (6 oz.), or whisky or brandy, 2 tablefuls, 30 c.c. (1 oz.).
Butter, 40 gm. ($1\frac{1}{3}$ oz.).

Afternoon tea with 15 gm. ($\frac{1}{2}$ oz.) of cream.

Dinner: Any clear soup.
Meat (roast pork, beef, mutton, turkey, or lamb chops), 90 gm. (3 oz.).
Vegetables from list, 2 tablespoonfuls.
Salad with 15 gm. ($\frac{1}{2}$ oz.) of oil in the dressing.
Cream cheese, 30 gm. (1 oz.).
White wine, 2 claret glasses, 180 c.c. (6 oz.), or whisky or brandy, 2 tablespoonfuls, 30 c.c. (1 oz.).
Demi-tasse of coffee.
Butter, 30 gm. (1 oz.).

Bedtime: Bouillon with 1 raw egg.

Protein, 62 gm. (2 oz.); nitrogen, 10 gm. (2 dr.); fat, 180 gm. (6 oz.); total calories equal 2500. Omitting 30 gm. of butter and $\frac{1}{2}$ oz. of bacon, calories equal 2250.

Green Days[1]

Breakfast: 1 egg, boiled or poached.
Cupful of black coffee.

Dinner: Spinach, with hard-boiled egg.
Bacon, 15 gm. ($\frac{1}{2}$ oz.).
Salad with 15 gm. ($\frac{1}{2}$ oz.) of oil.
White wine, $\frac{1}{4}$ liter (4 oz.), or whisky or brandy 30 c.c. (1 oz.).

4.30 P. M.: Cup of beef-tea or chicken broth.

[1] T. C. Janeway in Musser and Kelly, Practical Therapeutics.

Supper: 1 egg, scrambled with tomato and a little butter.
Bacon, 15 gm. (½ oz.).
Cabbage, cauliflower, sauerkraut, string-beans, or asparagus.
White wine, ⅛ liter (4 oz.), or whisky or brandy, 30 c.c. (1 oz.).

Sodium bicarbonate, 15 to 30 gm. (½–1 oz.) in the twenty-four hours. Protein, 32 gm. (1 oz.); nitrogen, 5 gm. (1 dr.); carbohydrate, about 5 gm. (1 dr.); fat, 67 gm. (2 oz.); calories, 575.

General Diabetic Diet-list[1]

May take freely:

Soups: All meat soups and broths. May add vegetables allowed; egg or cheese.

Meats: All fresh, smoked, and cured meats (except liver), poultry and game, without sauces or gravies containing flour, pâté de foies gras.

Fish: All kinds, except oysters, clams, and scallops, cooked without bread-crumbs or meal; all dried, salted, smoked or pickled fish.

Eggs: Prepared in any way without flour.

Fats: Butter, lard, suet, olive oil, or other fats.

Cheeses: All kinds, especially cream, Swiss, English, and pineapple cheese.

Vegetables and Salads: Asparagus, beet greens, Brussels sprouts, cabbage, cauliflower, celery, chicory, cresses, cucumbers, egg-plant, endive, kohlrabi, leeks, lettuce, okra, pumpkin, radishes, rhubarb,

[1] T. C. Janeway in Musser and Kelly, Practical Therapeutics.

salsify, sauerkraut, spinach, string-beans, tomatoes, vegetable marrow.

Pickles made from the above vegetables, unsweetened; ripe olives.

Fungi: Mushrooms and truffles.

Cream: Not over 90 c.c. (3 oz.) a day.

Condiments: Salt, pepper, cayenne, paprika, curry, cinnamon, cloves, English mustard, nutmeg, caraway, capers, vinegar, and the piquant sauces in small quantities unless specially forbidden.

Desserts: Jellies made from gelatin; custards and ice-cream made with eggs and cream; all sweetened with saccharin and flavored with vanilla; coffee or brandy.

Nuts: Butternuts.

Beverages: Tea or coffee, sweetened with saccharin and with the portion of cream allowed. Whisky, brandy, rum, and other distilled liquors, up to 3 oz. a day. Light Rhine or Moselle wine, claret, or Burgundy, up to 16 oz. a day (1 pint). Mineral waters of all kinds. Lemonade in small quantity, sweetened with saccharin.

Articles Prohibited, Except as Prescribed in the Accessory Diet:

Sugars and sweets of every kind.

Pastry, puddings, preserves, cake, and ice-cream.

Bread and biscuits of all kinds, toast, crackers, and griddle cakes.

Cereals, such as rice, oatmeal, sago, hominy, tapioca, and barley.

Macaroni, potatoes, carrots, parsnips, beans, peas, beets, green corn, and turnips.

Fruit of all kinds, fresh or dried.

Soups, sauces, or gravies thickened with flour or meal, or made with milk.

Beer, ale, porter, all sweet wines, sherry or port wine, sparkling wines, cider, and liquors.

Milk, chocolate, or cocoa.

All sweet drinks and soda-water.

Oatmeal Days [1]

Porridge made from oatmeal, 250 gm. (8 oz.), with butter, 250 gm. (8 oz.); salt and pepper to taste.

Black coffee, light white wine, $\frac{1}{4}$ liter (8 oz.), or cognac, 60 c.c. (2 oz.).

The whites of 6 eggs may be added to the porridge if desired.

	Nitrogen. Gm.	Carbohydrate. Gm.	Calories.
Oatmeal.....	6.2	170	1025
Butter.....	0.4	...	1975
	6.6 = 42 gm. protein.		3000
Alcohol (40 gm.).....			210
6 egg whites.....	3.6		90
	10.2 = 63 gm. protein.		3300

The entire diet consists of: Protein, 63 gm. (2 oz.); nitrogen, 16.8 gm. ($\frac{1}{2}$ oz.); carbohydrate, 170 gm. ($5\frac{2}{3}$ oz.); fat, 212 gm. (7 oz.); calories, 3300.

Comments on Diabetic Diet

Such an enormous amount has already been written on the dietetic treatment of diabetes mellitus that one hesitates about going into the details and indications.

[1] T. C. Janeway in Musser and Kelly, Practical Therapeutics.

The principles underlying the subject may, however, be stated here with propriety, and general directions given for the use of the diabetic diets and the table of carbohydrate equivalents, which will be found to be a great help in arranging a varied and, therefore, more palatable diet for patients with this disease.

Whatever may be the underlying organic lesion in a particular case, the result is the same; namely, that the power of properly metabolizing carbohydrates is impaired to a greater or less degree.

The object sought in dietetic treatment is to find the limit of the individual's carbohydrate tolerance, and then, by a slow system of gradually increasing the amount of starch or sugar, re-educate the system in its lost power to as high a degree as possible, always remembering that these cases can never go back to a free or unlimited use of carbohydrates.

The exact form which the dietetic treatment of diabetes should take must depend on the severity of the case, and, for the sake of clearness on this point, we may arbitrarily divide the cases into:

(1) Mild, without acidosis.

(2) Moderately severe, without acidosis or with moderate acidosis.

(3) Severe, with marked acidosis.

In (1) and (2) the first step is to find the individual's capacity for metabolizing carbohydrates, which is done as follows:

A gradual reduction in starch and sugar in the diet is made each day, using less, until, at the end of five to seven days, the patient is taking none of either. If, at this point, the patient is still excreting sugar in the twenty-four-hour urine (and twenty-four-hour specimens are necessary to an accurate diagnosis of the condition, and to successful treatment in the early part of it at least), he should be put on the diet with restricted protein (for subsequent steps, see p. 67). If, however, the urine is sugar-free after one or two days of carbohydrate-free diet, or before that point is reached, the patient is allowed the standard diet with 100 gm. ($3\frac{1}{3}$ oz.) of white bread divided between the three meals. The second twenty-four-hour specimen is then examined, and, if no sugar is present, increase the allowance of white bread by $\frac{1}{4}$ to $\frac{1}{2}$ ounce each day until sugar just shows in the urine. The last point at which the urine fails to show sugar represents that patient's carbohydrate tolerance.

The standard diet plus one-half of the carbohydrate tolerance is the diet this patient should be put on; *e. g.*, if the point of tolerance is 60 gm. (2 oz.) of white bread, then 30 gm. (1 oz.) is all the patient should be allowed, divided between the three meals. It is just here that the table of carbohydrate equivalents is of the greatest use, as it permits the use of foods more bulky than bread, but of relatively less carbohydrate value (p. 84).

The practical application in the use of this table in

the case taken as an example, with 30 gm. (1 oz.) as the amount of carbohydrates to be given, is as follows:

Example No. 1

(If tolerance is 30 gm. white bread.)

Proto puff No. 1...	45 gm.	=	7.5	gm.	white bread.
Potato.....	22 "	=	7.5	"	"
Oatmeal.....	40 "	=	7.5	"	"
Beets.....	33 "	=	3.75	"	"
Peaches.....	25 "	=	3.75	"	"
	165 "	=	30.00	"	"

Example No. 2

(If tolerance is 45 gm. white bread.)

Potato.....	22 gm.	=	7.5	gm.	white bread.
Oatmeal.....	40 "	=	7.5	"	"
Corn bread.....	20 "	=	15.0	"	"
Carrots.....	65 "	=	7.5	"	"
Orange.....	40 "	=	7.5	"	"
	187 "	=	45.0	"	"

That is, we can give a varied carbohydrate diet with a bulk of 165 gm. of food worth just 30 gm. of white bread, which is our allowance, or in the second example, 187 gm. mixed carbohydrates equals 45 gm. white bread.

This is sufficient for an example, as the practical application to each case is simple and only a matter of detail and a little practice.

This means, of course, that the carbohydrates must be weighed, and at the outset it must be understood

that this is the only satisfactory way to arrive at an accurate conclusion as to what constitutes the individual's carbohydrate tolerance and the only way to use the diet successfully. Of course, later the eye becomes well trained to judge amounts, and the scales may be dispensed with. (von Noorden, however, insists that patients must always live by the scale. A difficult thing to obtain in America.)

The reason that it is necessary to allow only one-half the amount of the carbohydrate tolerance is because, while the urine becomes sugar free on the full amount of the tolerance, the blood does not always, and, in order to reduce the sugar content of the blood to normal or as nearly as may be, the lessened amount of carbohydrate only is allowed. No increase should be made in the allowance until from one to three months, depending upon the severity of the disease, unless, of course, an acidosis should develop, which would require the use of the diet as outlined for the oatmeal days. The increase must be made gradually, the object being to allow little by little more carbohydrate, but not enough to have it show in the urine.

Should the urine not become sugar free on the standard diet without carbohydrates, the standard diet, with restricted protein, should be used. If this results in a sugar-free urine, then, after a short time, the full standard diet can be again tried, for often the restricted protein will make it possible for the organism to take more pro-

tein than at first without the appearance of sugar in the urine. From this point one proceeds as in the first instance.

In the severe cases, with more or less marked acidosis, it is best to put these patients at once on the oatmeal diet, and keep them on it from two to ten days, regardless of the sugar in the urine, giving them, at the same time, large doses of bicarbonate of soda in the attempt to render the urine alkaline, a thing always to be desired and tried for in these cases. Should the acidosis grow distinctly less, but the sugar still be considerable, the patients are usually benefited by two days on the green diet, "green days" as they are called. One goes from that to the standard diet, with restricted protein, if the lessened degree of acidosis will permit, and from there to the full standard diet, if possible, after a few days. If, however, the acidosis increases in the "green days," one must return to the oatmeal diet again until that danger is past.

Oftentimes a series of diets in succession are valuable, and von Noorden's routine in a severe case is two days restricted protein diet, two days green diet, three days oatmeal diet.

Often a patient becomes sugar free on this plan even while on the oatmeal, and the organic acids drop down very soon. These seven days constitute a "set." We then go back to the diet with restricted protein. If sugar appears again, repeat the "set"—by this means

one can often get a patient so they can again take a little carbohydrate and gradually increase it, always aiming to keep below the point of actual carbohydrate tolerance.

One other indication for the use of the oatmeal days in when in the course of the disease the patient's stomach or bowels become upset, nausea, vomiting, or diarrhea ensuing.

Wright's diabetic milk fills a long felt want in the treatment of diabetes, as the loss of milk from the diet is one of the most difficult features of the restricted diet to overcome. This milk tastes surprisingly like the fresh milk from which it is prepared, and, as the analysis shows, contains an almost negligible amount of carbohydrate. (See Special Recipes.)

Note.—When it is found inconvenient to prepare this milk at home, any good milk laboratory will make it up, or a similar milk may be purchased direct from D. Whiting & Sons, 570 Rutherford Avenue, Boston, Mass.

ANTICONSTIPATION DIET[1]

6 A. M.:	Fruit, stewed or fresh. 1½ glasses of hot water.
Breakfast:	Oatmeal, molasses, coffee, bran biscuits. 1 egg, baked apple or prunes, butter.
10 A. M.:	2 glasses of water.
Dinner:	Soup, meat or fish, all vegetables, salad and oil, brown bread and butter, any dessert, fruit.
4 P. M.:	2 glasses of water.
Supper:	Fruit, cereal, brown bread or bran biscuits and butter, molasses.
Bedtime:	Dried figs, prunes or dates, 1 glass of water.

Approximate Food Value to be Given

	Protein.	Carbohydrate.	Fat.	Calories.
Men....	70 gm. (2⅓ oz.).	300 gm. (10 oz.).	80 gm. (2⅔ oz.).	2200
Women..	60 gm. (2 oz.).	250 gm. (8⅓ oz.).	70 gm. (2⅓ oz.).	1800

Comments on Anticonstipation Diet

This can be greatly modified in detail according to the patient's financial circumstances. One great underlying trouble with most people who have atonic constipation (which constitutes by far the most common type) is that the colon and rectum need stimulation by

[1] Modified from Vanderbilt Clinic diet lists.

a larger food residue than the individual normally consumes, so that in general it may be said that these cases need fruits, cooked or raw, and green vegetables in double or treble the amount the normal individual does. It is only by constant effort and encouragement that patients can be brought to do this, as they feel they are eating too much food. This prejudice can be removed when they are told of the really slight food value of these articles of diet, and that they are mainly valuable on account of their bulk.

LOW CALCIUM DIET

Boiled meat	250 gm. (8⅓ oz.)
Bread	100 gm. (3⅓ oz.)
Fish	100 gm. (3⅓ oz.)
Potatoes	100 gm. (3⅓ oz.)
Apple	100 gm. (3⅓ oz.)
Sugar	50 gm. (1⅔ oz.)
Butter	50 gm. (1⅔ oz.)
Tea (with cream)	100 gm. (3⅓ oz.)

Calcium content, 0.315 gm.

Protein, 80 gm. (1⅔ oz.); fat, 100 gm. (3⅓ oz.); carbohydrate, 145 gm. (5 oz.); calories, 2000.

Comments on Low Calcium Diet

This was designed by Dr. C. G. L. Wolf, of the Cornell Medical School, at the suggestion of my colleague, Dr. David Bovaird, Jr., who conceived the idea that cases of chronic deforming arthritis might be greatly benefited by reducing the calcium intake, on the theory that the disease is due to a disturbed calcium metabolism. This has been used in a number of cases, both at the Presbyterian and Lincoln Hospitals, New York, and, while it has not resulted in any cures, some of the patients have been greatly relieved of their pain while on the diet. Its monotony is its worst feature, and one

can seldom get patients to continue its use for long at a time. Theoretically, tetany might seem a possible consequence of withdrawing the calcium from the diet, but in one case in which Bovaird used this diet for many months there was no evidence of this.

The diet, moreover, is of scientific value to anyone desiring to study calcium metabolism.

The fixed nitrogen, calcium, magnesium diet has been used exclusively for research work, and is an accurate analysis of the food stuffs composing the diet in these three particulars.

FIXED NITROGEN, CALCIUM, MAGNESIUM DIET (VOGEL.)

(Twenty-four-hour Amount)

Milk	500 gm. (16⅔ oz.)
Eggs	300 gm. (10 oz.)
Cream	300 gm. (10 oz.)
Rice, uncooked	100 gm. (3⅓ oz.)

N in twenty-four-hour amounts	8.138
CaO in twenty-four-hour amounts	1.214
MgO in twenty-four-hour amounts	0.175
Calories	1900

DIARRHEA

Acute Diarrhea

It seems almost unnecessary to discuss this condition from a dietetic point of view, as the principles governing the feeding of such cases seem in adults generally so well understood. After an initial purge and a period of digestive rest one can give the ordinary fluid diet without milk, consisting of broths, egg-albumin in water flavored with orange- or lemon-juice, and then gruels, followed later by thin cereals, scraped meat, and toast. Fresh milk in any form usually does not agree, and is apt to increase or at least keep up the diarrhea. One should not be afraid of a generous amount of starvation, as physiologic rest to the bowel is often all that is needed.

Chronic Diarrhea

Differing from acute diarrhea (where the cause is practically always from a gross dietetic error), the causes, of which chronic diarrhea is only a symptom, are numerous. In order to treat such a condition successfully one must make an accurate diagnosis, otherwise it is time and energy thrown away. One case in point: The chronic diarrhea, usually associated with a persistent gastric achylia, is, for the most part, promptly stopped

by merely giving dilute hydrochloric acid regardless of a diet; and often no amount of dieting of any description will control this diarrhea without supplying the lack of normal acid. Hence one sees the necessity for an accurate diagnosis preliminary to any form of treatment.

There are, however, numerous cases of chronic diarrhea when, regardless of the underlying cause, there is the need of a diet which fulfils the following conditions:

(1) Non-stimulating and non-irritating.

(2) Easily digested, leaving little residue.

(3) Not apt to ferment.

(4) As astringent as possible.

In order to fulfil these conditions the articles of food may be divided into those directly useful, those to be avoided, and those possibly allowable in certain cases.

Diet in Chronic Diarrhea

May take:

Raw oysters (soft part).

Clear soups.

Fish: Any soft, white-meated, non-oily variety.

Meat: Beef, lamb, chicken, guinea-hen.

Cereals: Farina, cream of wheat, grape-nuts, shredded wheat, wheatena, flaked rice, puffed wheat or rice, well-boiled rice.

Gruels: Vermicelli.

Bread: Stale bread, toast, zwieback, toasted crackers.

Cheese: Ripe, American, Canadian, cream or cottage, pineapple.

Desserts: Gelatin desserts made with little sugar, farina pudding or almost any cereal pudding, simple cake at times (*e. g.*, sponge), blanc mange.

Drinks: Water, tea, black coffee, cocoa, claret, dry sherry, Burgundy, whisky or brandy, and water.

To be avoided:

Milk (?): Some cases can take it boiled or skimmed.

Tough or oily fish, clams, etc.

Pork, veal, ham, duck, goose.

Pickles, condiments, salads, olives, etc.

Green vegetables, salads, fruits, fresh or stewed.

Hot breads, pies, sweets of all kinds.

Sweet wines.

Articles allowable in certain cases:

Malted milk can often be used on cereals, and is better borne than fresh milk. Fresh milk boiled.

Turkey, bacon (crisp), koumiss, zoolak, baked white potato. Eggs—boiled, baked, poached, omelette, scrambled.

Baked hubbard squash, well-stewed celery, creamed spinach, small boiled onions. Boiled peas or lima beans put through a colander, without skins.

OBESITY DIET
(RICHTER.)

Early A. M.:	Cupful of tea, no milk or sugar.
	Ham, 40 gm. ($1\frac{1}{3}$ oz.).
	1 roll (dry).
10 A. M.:	Fresh fruit.
12 A. M.:	Fresh fruit.
2 P. M.:	Clear soup, 100 gm. ($3\frac{1}{3}$ oz.); lean meat, plenty of green vegetables without butter or milk.
	Salad.
	1 or 2 glasses of lemonade without sugar.
	Use saccharin if wanted.
4 P. M.:	Cup of tea.
6 P. M.:	Fruit.
8 P. M.:	75 gm. ($2\frac{2}{3}$ oz.) of lean meat, radishes, potato (small one), sour pickles.
	Take one or two steam baths per week.

Protein, 75 gm. ($2\frac{1}{2}$ oz.); fat, 50 gm. ($1\frac{2}{3}$ oz.); carbohydrate, 130 gm. ($4\frac{1}{2}$ oz.); calories, 1300.

COMMENTS ON OBESITY DIET

The accumulation of fat in the subcutaneous tissues is due either to an excess of food, combined with too little work, or it is a true disease, in which case fat is deposited in spite of a small ration. In the first instance,

diet alone is necessary for reduction, combined with exercise; in the second, there must also be other methods used.

In order to reduce the body weight it is necessary to know the number of heat units which that particular individual would need if the weight were the average for the height. This is easily obtained from the tables given (page 97).

Knowing what the average weight should be, the caloric needs are reckoned at 30 to 35 calories per kilo (2.2 pounds). This is sufficient for the body at light work. When the normal caloric need is found, a diet is constructed which will supply only two-thirds, one-half, or one-fourth the required normal; always, however, keeping the protein at a good quantity to prevent unnecessary protein loss, cutting down on the fats and carbohydrates so that the caloric value is kept low. Some authors prefer to make the greatest reduction in the fats, as they are intensive fat-building bodies; others prefer the reduction principally in carbohydrates. A generous supply of water is necessary, best taken between meals, as water with meals makes it easier to take larger quantities of food; hence, water-drinking at meal time is curtailed to the lowest possible amount or even none allowed.

The sample diet given furnishes a good quantity of protein, but is low in fat, carbohydrate, and total calories.

GASTRIC TEST MEALS

EWALD: On early morning fasting stomach, give

White bread (no crust)..... 40 gm. ($1\frac{1}{3}$ oz.)
Clear tea or water.....400 c.c. (6 oz.)
No butter, no sugar or milk.
Express one hour later.

Leube:

Clear beef soup.....400 c.c. ($13\frac{1}{3}$ oz.)
Beefsteak.....200 gm. ($6\frac{2}{3}$ oz.)
Bread..... 50 gm. ($1\frac{2}{3}$ oz.)
Water.....200 c.c. ($6\frac{2}{3}$ oz.)
Express six hours later.

Riegel:

1 bowl mutton broth.....200 c.c. ($6\frac{2}{3}$ oz.)
Beefsteak.....200 gm. ($6\frac{2}{3}$ oz.)
Mashed potatoes..... 50 gm. ($1\frac{2}{3}$ oz.)
1 roll or piece of bread,
1 glass of water.....200 c.c. ($6\frac{2}{3}$ oz.)
Express six hours later.

COMMENTS ON TEST MEALS

The Ewald test meal is almost too well known to need any word of explanation, but an outline of its use and a word about routine in gastric diagnosis may not be amiss.

Patients presenting themselves for diagnosis should be told to take their usual supper or dinner the night before the examination, eating with the meal a helping of spinach and a few stewed prunes or dried raisins. These are all easily recognized in the early morning fasting stomach should there be any actual retention. Nothing must be taken into the stomach after this meal until the time of examination, not even water after 10 P. M. The following morning the stomach-tube is introduced, and, by expression and the use of a Politzer bag or stiff rubber bulb, an attempt made (without the addition of water) to obtain any possible gastric contents. Whatever is obtained is examined for mucus, free hydrochloric acid, total acidity, blood, and microscopically for leukocytes, food remnants, and bacteria. After this, or even in case there is nothing obtained from the fasting stomach, the Ewald test meal is given and removed one hour later without the addition of water.[1]

[1] The following should be about the normal limits of gastric chemistry after the Ewald meal:

Mucus.—None, or very small amount.

Expressed.—Not over 100 to 125 c.c.

Relation of Solids to Liquids.—1 to 2 or 1 to 3.

Free Hydrochloric Acid.—15 to 30 (reckoned in cubic centimeters of $\frac{1}{10}$ normal potassium hydrate).

Combined Acids.—20 to 30.

Total Acidity.—45 to 60 (reckoned in cubic centimeters of potassium hydrate solution).

Organic Acids.—Absent.

Reaction to Dilute Lugol's Solution.—Mahogany color (blue or purple, indicating poor starch digestion; reddish or yellow, good starch digestion).

The Riegel meal is often used for the purpose of learning what sort of gastric chemistry goes on in the presence of what might be called a normal mixed meal. At times the Ewald meal will show no free acid, whereas if meat is included this may call out enough acid, if possible, to give the reaction for free acid. Still another reason for giving the Riegel meal is that the Ewald meal is rather an abnormal meal and not so apt to call out the full or normally balanced secretion that the more normal meal might.

The difference between the result of the examination of this meal and the Ewald are: There may be higher acid values, the starch should be better digested, and blood reaction be present from the meat. Of course, too, the microscopic examination shows the meat residue.

This meal or the Leube may be given to test the motor efficiency of the stomach, as there should be nothing left after six and one-half to seven hours' digestion and the stomach should be empty.

Biuret Reaction.—Normal, a purple pink.

Blood Test.—No reaction or very faint.

Microscopic Examination.—Starch grains and scattered cell detritus (no noticeable number of leukocytes, bacteria, or sarcinæ should be present).

No food from previous day should be present.

For the interpretation of the divergences from the normal finding one is referred to the regular text-books on Gastric Diseases. Any food from the previous supper must be taken as an indication of mechanical obstruction at the pylorus, or possibly an extreme degree of motor insufficiency.

SCHMIDT'S INTESTINAL TEST DIET[1]

In the morning, 0.5 liter (16 oz.) milk, or, if milk does not agree, 0.5 liter (16 oz.) cocoa, prepared from 20 gm. ($\frac{2}{3}$ oz.) cocoa powder, 10 gm. ($\frac{1}{3}$ oz.) sugar, 400 c.c. (13 oz.) water, and 100 c.c. ($3\frac{2}{3}$ oz.) milk.

In the forenoon, 0.5 liter (16 oz.) oatmeal gruel, made from 40 gm. ($1\frac{1}{3}$ oz.) oatmeal, 10 gm. ($\frac{1}{3}$ oz.) butter, 200 c.c. ($6\frac{1}{2}$ oz.) milk, 300 c.c. (10 oz.) water, 1 egg, strained.

At noon, 125 gm. (4 oz.) chopped beef (raw weight), broiled rare with 20 gm. ($\frac{2}{3}$ oz.) of butter, so that the interior will still remain raw.

To this add 250 gm. (8 oz.) potato broth, made of 190 gm. ($6\frac{1}{3}$ oz.) mashed potatoes, 100 c.c. ($3\frac{1}{3}$ oz.) milk, and 10 gm. ($\frac{1}{3}$ oz.) butter.

In the afternoon as in the morning.

In the evening as in the forenoon.

This diet consists of:

Milk	1.5 liters	($1\frac{1}{2}$ qt.)
Zwieback	100 gm.	($3\frac{1}{3}$ oz.)
Eggs	2	
Butter	50 gm.	($1\frac{2}{3}$ oz.)
Beef	125 gm.	(4 oz.)
Potatoes	190 gm.	($6\frac{1}{3}$ oz.)
Oatmeal (gruel)	80 gm.	($2\frac{2}{3}$ oz.)

This contains protein 102 gm. ($3\frac{1}{3}$ oz.); fat, 111 gm. (4 oz.); carbohydrates, 191 gm. ($6\frac{1}{3}$ oz.); calories, 2234.

[1] Schmidt, The Test Diet in Intestinal Diseases.

Comments on Schmidt's Intestinal Test Diet

Schmidt's intestinal test diet is a convenient and uniform diet for testing the intestinal functions, and gives as a starting-point a feces of uniform composition. In Schmidt's words, "such a test diet must be one which can be taken equally well by healthy people as well as those suffering from an intestinal disorder; it must be free, but not absolutely free, from waste matter, in order that the stimulus ordinarily furnished by the ingesta should not be completely absent; it must be capable of supplying the minimum, at least, of calories required by the body (at rest), and must contain the three chief groups of food stuffs in proportionate relation to each other; finally, it must be of simple composition, easy to make, and uniformly prepared." While this is not the only diet conceivable for such a purpose, there is a great advantage in the universal use of a particular diet for testing intestinal functions, just as we use standard diets for testing the gastric functions, and it is of a definite composition and the result of its use in many cases can be correlated.

TABLE OF CARBOHYDRATE EQUIVALENTS

WHITE bread and biscuits of various sorts:

Grams	7.5	15	30	45	60	75
Ounces	¼	½	1	1½	2	2½
	"	"	"	Grams.	"	"
Potato	22	44	88	132	176	220
Hominy (cooked)	25	50	100	150	200	250
Oatmeal (cooked)	40	80	160	240	320	400
Rice (cooked)	15	30	60	90	120	150
Farina (cooked)	25	50	100	150	200	250
Shredded wheat	5	10	20	30	40	50
Indian-meal mush	27	54	108	162	216	270
Macaroni	30	60	120	180	240	300
Corn bread	10	20	40	60	80	100
Barker's gluten food, A	102	204	408	612	816	1020
Barker's gluten food, B	74	148	296	444	592	740
Barker's gluten food, C	54	108	216	224	432	540
Almond meal	65	130	260	390	520	650
Gum gluten (ground)	12	24	48	72	96	120
Soja-bean meal	50	100	200	300	400	500
Casoid flour	55	110	220	330	440	550
Pure gluten biscuit	50	100	200	300	400	500
Protopuff No. 1	45	90	180	270	360	450
Protopuff No. 2	12	24	48	72	96	120
Salvia sticks	25	50	100	150	200	250
Milk (whole)	112	224	448	672	896	1120
Cream	112	224	448	672	896	1120
Grape-fruit weighed with skin	187	375	750	1125	1150	1875
Rice pudding	14	28	56	84	112	140
Tapioca pudding	15	30	60	90	120	150
Beets (cooked)	65	130	260	390	520	650
Custard (baked)	30	60	120	180	240	300
Carrots	65	130	260	390	520	650

Divide by 30 to reduce grams to ounces.

	Grams.					
Corn (canned or green)	22	44	88	132	176	220
Egg plant	90	180	360	540	720	900
Parsnips	35	70	140	210	280	350
Green peas	30	60	120	180	240	300
Turnips	56	112	224	336	448	560
Baked beans	22	44	88	132	176	220
Apples	45	90	180	270	360	450
Bananas	20	40	80	120	160	200
Oranges	40	80	160	240	320	400
Peaches	50	100	200	300	400	500
Pears	50	100	200	300	400	500
Prunes	24	48	96	144	192	240
Watermelon	225	450	900			

Divide by 30 to reduce grams to ounces.

The list of food stuffs taken from Bulletin 28 of the Department of Agriculture are indispensable in reckoning the protein, fat, and carbohydrate values of foods as well as their caloric value.

The special recipes are appended and will be found useful. Those for diabetics speak for themselves, while the lactose jelly and ice-cream will be found a convenient method for exhibiting palatably a good number of calories.

Delafield's mixture is often serviceable in the feeding of gastric cases accompanied by much nausea and vomiting, beginning with dram doses every twenty minutes and gradually increasing the dose, and later lengthening the intervals.

In Eiweissmilch (protein milk) we have a preparation of German origin which is useful, at times, in conditions of intestinal disturbance associated with diarrhea. It

has been used, as has Keller's malt soup, particularly in the feeding of children, but either may be of great use in the care of adults where milk, either alone or with the usual admixtures, is not well borne.

Fisher's table of "standard portions" of 100 calories each forms the basis for the easy computation and construction of any of the diets. The addition of the actual amount of protein, fat, and carbohydrate in the individual portions simplifies the determination of the amounts of these food elements in any one of the foods listed.

Thus, if, for example, we wish to figure the actual amount of food for a day's ration in an anticonstipation diet, we take the fraction or multiples of 100 calories of the foods called for. Slight rearrangements are often necessary to keep to the approximate values set for the different diets; the following is an example of the method for using this table—*e. g.*, for anticonstipation breakfast.

	Calories.	Protein. Gm.	Fat. Gm.	Carbohydrate. Gm.
Apple (1) (early A. M.)	50	0.3	0.3	11.0
Oatmeal	100	4.4	0.8	8.2
Molasses	200	1.6	...	48.0
Biscuit (johnny cake)	200	6.0	3.4	35.0
Egg	100	7.9	7.2	
Apple (1)	50	0.3	0.3	11.0
Prunes	200	1.4	...	46.8
Butter	100	...	10.6	
	1000	21.9	22.6	160.0

SPECIAL DIABETIC RECIPES[1]

Diabetic Bread and Biscuit

Akoll Buiscuit (Huntly and Palmer).

Carbohydrate, 2.7 per cent.; nitrogen, 7 per cent. Each biscuit weighs 5.1 gm. and contains 0.14 gm. carbohydrate and 0.41 gm. nitrogen.

Gluten meal biscuit, made from Barker's Gluten Food A, to be had of Herman B. Barker, Somerville, Mass.

Carbohydrate not over 4 per cent.; nitrogen, 13 per cent.

Soja-bean meal biscuit from Soja-bean meal, to be had of Thomas Metcalf Company, Boston, Mass.

Protein (N. × 6.25), 44.64 per cent.; fat, 19.43 per cent.; cane-sugar, 9.34 per cent.; starch, none.

Casoid biscuit, to be had of Thomas Leeming & Co., New York City.

Carbohydrate, 8 per cent.; nitrogen, 10 per cent.

Pure gluten biscuit and potato gluten biscuit, to be had of Battle Creek Sanitarium Food Company.

Carbohydrate, 10 per cent.; nitrogen, 12 per cent.

Protopuff No. 1, Health Food Company, New York.

Carbohydrate, 10 per cent.; nitrogen, 12 per cent.

[1] T. C. Janeway in Musser and Kelly, Practical Therapeutics.

Special Recipes for the Use of Oatmeal

Oatmeal Popovers:

Into the white of 1 egg beaten lightly stir 100 gm. ($3\frac{1}{3}$ oz.) of cooked oatmeal. Mix thoroughly. Drop into heated popover pan. Bake twenty minutes. Serve hot with butter.

Oatmeal Griddle Cakes:

Into the beaten white of 1 egg stir 100 gm. ($3\frac{1}{3}$ oz.) of cooked oatmeal and 5 gm. (heaping teaspoonful) melted butter. Drop into griddle pan. Turn when the oatmeal is browned on edges. Serve hot with plenty of butter and cinnamon.

Oatmeal Muffins:

To 130 gm. (2 half-pint cups) of oatmeal, ground as finely as possible (coffee grinder), add 1 heaping teaspoonful Royal baking powder and $\frac{1}{2}$ teaspoonful of salt. Mix well and add $1\frac{1}{3}$ cups of cold water, and at the end melted butter or lard about half the size of an egg, 28 gm. (1 oz.). Beat well for a minute, put into buttered muffin pans, and bake in a very hot oven.

Soja-bean Meal

Soja-bean Meal Biscuit:

1 cup of cream, 2 eggs, 1 teaspoonful of baking powder, salt to taste. Soja-bean meal to make a batter, not too thick. Make into 8 cakes.

Muffins:

Sift together thoroughly 1 oz. of Soja-bean flour, ½ teaspoonful baking powder, and a little salt. Stir 1¼ oz. cold water into flour, add melted butter (amount equal to size of a hickory nut), beat the white of an egg and mix in lightly. Bake in two buttered muffin pans or molds.

Pancake:

Sift 1 tablespoonful of Soja-bean flour with a little salt, add water gradually until a thin batter is made, beat in hard the yolk of an egg, mix in lightly the beaten white of an egg. Put all or half of the mixture in a buttered frying-pan and bake to a nice brown on both sides.

Pudding:

Mix 2½ oz. of water, 1 oz. Soja-bean flour, and a little salt together cold, boil in a double boiler for one-half hour adding a piece of butter the size of a hickory nut. Beat up the yolk of an egg until foamy, add to it ½ gr. saccharin dissolved in a few drops of water, a little grated nutmeg, and a little cinnamon. After the flour mixture has cooled somewhat stir it into the beaten yolk. Add the beaten white of an egg and bake in a fairly hot oven.

Gluten Meal Biscuit:

To 1 egg add 1 heaping saltspoonful of salt and beat; then add 6 tablespoonfuls of cold water and

beat until quite thick or until it becomes in quantity from 1 to 1½ pints, and into this beat 1 tablespoonful of thin cream; add 2 heaping tablespoonfuls of dry gluten; stir this into the previous mixture; stir occasionally during one-half hour until of the consistency of thick gruel; bake thirty-five minutes in well-buttered muffin pans in hot oven.

Desserts

Baked Custard:

1 egg.

3 tablespoonfuls cream.

5 tablespoonfuls water.

2 or 3 saccharin tablets.

8 drops vanilla essence.

Beat up well. Bake in buttered dish twenty minutes, with a little nutmeg grated on top.

Coffee Ice-cream:

3 tablespoonfuls cream.

3 tablespoonfuls water.

2 tablespoonfuls coffee with 2 or 3 saccharin tablets dissolved in it.

1 egg.

Mix in saucepan and beat gradually until it thickens. Then cool and freeze.

Cheese Savory:

Stir together until very light 4 tablespoonfuls each of melted butter and grated cheese with 1 table-

spoonful of Barker's gluten food A, 2 tablespoonfuls cream, a flavoring of salt and cayenne, and 2 well-beaten eggs. Pour into ramikins or cases made of oiled paper, bake in a quick oven, and serve immediately.

CRANBERRIES:

Stewed and sweetened with saccharin.

DIABETIC MILK (WRIGHT'S)

Definite quantity of milk diluted with three to four volumes distilled water, to which 1 or 2:1000 glacial acetic acid has been added (6–12 c.c., dr. $1\frac{1}{2}$–3, glacial acetic acid; 1 pint or 500 c.c. water). This precipitates all casein and fat.

Allow to settle, then strain through calico. Wash repeatedly. Redissolve curd in a 1 per cent. solution of the following mixture, enough to make the original amount of milk:

Sodium chlorid	11.5
Potassium chlorid	9.9
Monopotassium phosphate	13.8
Dipotassium phosphate	10.0
Citrate of potassium	5.9
Dimagnesium phosphate	4.0
Magnesium citrate	4.4
Dicalcium phosphate	8.0
Tricalcium phosphate	9.6
Calcium citrate	25.5
Calcium oxid	5.5
Sodium carbonate	40.0

Analysis of Wright's Diabetic Milk[1]

Specific gravity, 1011.

Ash	0.200 per cent.
Fat	3.600 "
Protein	1.907 "
Carbohydrates	0.015 "
Total solids	5.722 "
NaCl	0.110 "

[1] Granat.

MISCELLANEOUS RECIPES

RAISED BRAN BISCUITS:

2 cups of bran.

1 cup of entire wheat flour.

Butter, salt, and baking powder.

½ cup of molasses, more or less to taste.

1½ cups of milk.

Bake for one hour in gems, in slow oven.

(Eat one to three a day, when stale.)

BRAN CRACKERS (FOORD):

Butter, 2 cups.

Buttermilk, ¾ cup.

Molasses (or honey), ¾ cup.

White flour, 1 pint.

Baking soda, 2 teaspoonfuls.

Bran, 1¼ quarts.

Bake in flat crackers, ¼ inch thick and 2 inches wide.

CREAM OF PEA SOUP:

Canned peas, ⅓ cup.

Salt.

Water, 1½ oz. (45 c.c.).

Milk, 6 oz. (180 c.c.).

Butter, 1 dram (4 gm.).

Flour, 1 dram (4 gm.).

Lactose, 1 dram (4 gm.).

Boil first three ingredients, strain, and add milk, melted butter, flour, and lactose; season. Bring to the boiling-point and strain.

30 c.c. (1 oz.) equals protein 2.6 gm. Calories, 32.

BLACK BEAN SOUP:

Black beans, 2 tablespoonfuls.
Cold water, 1 cup.
Seasoning—onion, celery salt, salt, and pepper.
Boil beans with water, strain, and add—
Milk, $\frac{2}{3}$ cup.
Butter, 2 drams (8 gm.).
Flour, 1 dram (4 gm.).
Salt and pepper, q. s.

30 c.c. (1 oz.) equals protein 1.98. Calories, 40.

LACTOSE JELLY:

Gelatin, $\frac{1}{2}$ teaspoonful
Cold water, 2 teaspoonfuls
Orange juice, $1\frac{1}{2}$ oz.
Lemon juice, 1 teaspoonful
} 1 portion.

Cane-sugar, $1\frac{1}{2}$ teaspoonfuls.
Sherry, 1 teaspoonful.
Lactose, 3 tablespoonfuls ($1\frac{1}{2}$ oz.).
Boiling water, $1\frac{1}{2}$ oz.

Lactose is boiled in water until clear. Pour over soaked gelatin to dissolve and add other parts. Strain through double gauze and chill.

May also be flavored with grape or raspberry juice.

ARTIFICIAL BUTTERMILK:

1 quart fresh milk (fat-free preferable). Sterilize at temperature of 212° F. for twenty minutes. Cool to 98° F. and put in sterile bottle. Add 1 tube (1 c.c.) of lactobacillin (The Ferment Co.). Allow to stand at temperature of 95° F. for twenty-four hours. Beat thoroughly with Dover egg-beater and chill.

For large quantity, use ½ bottle of lactobacillin to one can of milk.

PROTEIN MILK (EIWEISSMILCH)

Heat 1 quart of whole milk to 100° F. Add 4 teaspoonfuls of essence of pepsin and stir. Let the mixture stand at 100° F. until the curd has formed. Put the mass in a linen cloth and strain off the whey from the curd. Remove the curd from the linen cloth and press it through a rather fine sieve two or three times by means of a wooden mallet or spoon. Add 1 pint of water to the curd during this process. The mixture should now look like milk, and the precipitate must be very finely divided. Add 1 pint of buttermilk to this mixture.

The composition of this food is:

Fats	2.5 per cent.
Sugar	1.5 "
Protein	3.0 "
Salt	0.5 "

1 quart of this milk contains about 370 calories.

Keller's Malt Soup

2 oz. of wheat flour are mixed with 11 oz. of whole milk and then passed through a sieve. In a second vessel 3 oz. of extract of malt are mixed with 20 oz. of warm water. The two mixtures are then poured into a porcelain vessel, $2\frac{1}{2}$ dr. of 11 per cent. carbonate of potassium added, and the whole cooked with constant stirring for twenty minutes, and then brought to a momentary boil; any loss through heat is made up by the addition of boiled water.

The composition of this food is:

Fats	1.20 per cent.
Protein	2.00 "
Carbohydrates	12.00 "

Caloric value, 800 to the liter.

Lactose Ice-cream

Cream	120 c.c. (4 oz.)
Lactose	30 gm. (1 oz.)
Boiling water	30 c.c. (1 oz.)
Cane-sugar	4 gm. (1 dr.)
Salt	1 gm. ($\frac{1}{4}$ dr.)
Vanilla	1 gm. ($\frac{1}{4}$ dr.)
Or,	
Sherry	15 c.c. ($\frac{1}{2}$ oz.)

Boil lactose and water two minutes or until clear. Mix with other ingredients. Freeze. Equals 390 calories.

Delafield's Mixture

Feeding in nausea:

Cream	120 c.c. (4 oz.)
Milk	120 c.c. (4 oz.)
Vichy	120 c.c. (4 oz.)
Soda bicarbonate	1⅓ gm. (20 gr.)
Cerium oxalate	⅔ gm. (10 gr.)

AVERAGE WEIGHTS FOR MEN AND WOMEN

As Compiled by the Metropolitan Life Insurance Company

Men.		*Women.*	
Height. Ft. In.	Weight. Lbs.	Height. Ft. In.	Weight. Lbs.
5 1	120	4 10	108
5 2	125	4 11	112
5 3	130	5 0	114
5 4	135	5 1	118
5 5	141	5 2	123
5 6	145	5 3	126
5 7	150	5 4	129
5 8	154	5 5	133
5 9	159	5 6	137
5 10	164	5 7	142
5 11	169	5 8	146
6 0	175	5 9	150
6 1	181	5 10	154
6 2	188	5 11	158

AVERAGE CHEMICAL COMPOSITION OF AMERICAN FOODS

FROM ATWATER AND BRYANT (ABSTRACT), UNITED STATES DEPARTMENT OF AGRICULTURE

(Bulletin No. 28, 1906)

Food Material. A. BEEF.	Water. Per cent.	Protein. Per cent.	Fat. Per cent.	Carbohydrates. Per cent.	Calories per 100 gm.[1]
Fresh:					
Chuck, including shoulder	65.0	19.2	15.4	....	222
Loin	61.3	19.0	19.1	....	255
Sirloin butt, as purchased	62.5	19.7	17.7	....	246
Porterhouse steak	60.0	21.9	20.4	....	280
Ribs	57.0	17.8	24.6	....	302
Round	67.8	20.9	18.6	....	184
Beef Organs:					
Brain	80.6	8.8	9.3	....	122
Kidney	76.7	16.6	4.8	0.4	115
Beef liver	71.2	20.4	4.5	1.7	133
Sweetbreads, as purchased	70.9	16.8	12.1	....	181
Tongue	70.8	18.9	9.2	....	163
Cooked:					
Roast, as purchased	48.2	22.3	28.6	....	357
Round steak, fat removed, as purchased	63.0	27.6	7.7	....	185
Loin steak:					
Tenderloin, broiled	54.8	23.5	20.4	....	287
Canned:					
Boiled beef, as purchased	51.8	25.5	22.5	....	314
Corned beef	51.8	26.3	18.7	....	282
Roast beef, as purchased	58.9	25.9	14.8	....	243

[1] Locke, Food Values.

Food Material.	Water.	Protein.	Fat.	Carbohydrates.	Calories per 100 gm.
B. Veal.	Per cent.	Per cent.	Per cent.	Per cent.	
Fresh:					
Breast	68.2	20.3	11.0	....	185
Leg	71.7	20.7	6.7	....	146
Loin	69.5	19.9	10.0	....	174
Rib	69.8	20.2	9.4	....	170
Shoulder and flank, medium fat	65.2	19.7	14.4	....	215
Kidney, as purchased	75.8	16.9	6.4	....	129
C. Lamb.					
Fresh:					
Breast or chuck	56.2	19.1	23.6	....	298
Leg, hind	58.6	18.6	22.6	....	287
Shoulder	51.8	18.1	29.7	....	351
Forequarter	55.1	18.3	25.8	....	315
Hindquarter	60.9	19.6	19.1	....	258
Cooked:					
Chops, broiled	47.6	21.7	29.9	....	367
Leg, roast	67.1	19.7	12.7	....	198
D. Mutton.					
Fresh:					
Chuck, lean	64.7	17.8	16.3	....	225
Leg, hind	63.2	18.7	17.5	....	239
Shoulder	60.2	17.5	21.8	....	274
Forequarter	52.9	15.6	30.9	....	352
Cooked:					
Mutton, leg, roast	50.9	25.0	22.6	....	313
E. Pork.					
Fresh:					
Ham	50.1	15.7	33.4	....	375
Pickled, salted, and smoked:					
Ham, smoked, boiled, as purchased	51.3	20.2	22.4	....	291
fried, as purchased	36.6	22.2	33.2	....	400
Bacon, smoked	20.2	10.5	64.8	....	646

Food Material.	Water.	Protein.	Fat.	Carbohydrates.	Calories per 100 gm.
F. SAUSAGE (as purchased).	Per cent.	Per cent.	Per cent.	Per cent.	
Bologna	55.2	18.2	19.7	....	258
Frankfort	57.2	19.6	18.6	1.1	258
Pork	39.8	13.0	44.2	1.1	468
sausage meat	46.2	17.4	32.5	....	374
G. POULTRY.					
Fresh:					
Chicken, broiler	69.7	20.7	8.3	....	196
young, dark meat	70.1	20.8	8.2	....	187
light meat	70.3	21.9	7.4	....	184
Duck, breast	73.9	22.3	2.3	....	151
Guinea-hen meat, not including giblets	68.9	23.4	6.5	....	191
Pheasant meat, not including giblets	70.0	24.7	4.6	....	180
Pigeon meat, not including giblets	63.2	22.9	12.1	....	243
Quail meat, not including giblets	66.3	25.4	7.0	....	208
Squabs, meat, not including giblets	56.6	18.5	23.8	....	324
Turkey, dark meat	57.0	21.4	20.6	....	316
cooked	53.7	39.2	4.3	....	265
light meat	63.9	25.7	9.4	....	235
cooked	58.5	34.6	4.9	....	240
Preserved Poultry Meat:					
Potted turkey	56.0	17.2	22.0	....	306
chicken	56.1	19.4	20.3	....	306
Canned chicken soup	87.1	2.9	3.3	5.1	66
gumbo soup	91.0	2.4	0.2	4.8	35
boned chicken	57.6	27.7	12.8	....	274
H. FISH.					
Fresh:					
Cod, whole	82.6	16.5	0.4	1.2	103
Bass, black, whole	76.7	20.6	1.7	1.2	103
sea, whole	79.3	19.8	0.5	1.4	86
striped, whole	77.7	18.6	2.8	1.2	102
Blackfish, whole	79.1	18.7	1.3	1.1	89

Food Material.	Water.	Protein.	Fat.	Carbohydrates.	Calories per 100 gm.
Fresh:	Per cent.	Per cent.	Per cent.	Per cent.	
Bluefish, entrails removed	78.5	19.4	1.2	1.3	90
Butterfish, whole	70.0	18.0	11.0	1.2	176
Eels, salt water	71.6	18.6	9.1	1.0	161
Haddock, entrails removed	81.7	17.2	0.3	1.2	74
Halibut, steak or sections	75.4	18.6	5.2	1.0	125
Herring, whole	72.5	19.5	7.1	1.5	146
Mackerel, whole	73.4	18.7	7.1	1.2	142
Perch, white, whole	75.7	19.3	4.0	1.2	117
as purchased	28.4	7.3	1.5	0.4	44
yellow, whole	79.3	18.7	0.8	1.2	84
Pickerel, pike, whole	79.8	18.7	0.5	1.1	81
Pike, gray, whole	80.8	17.9	0.8	1.1	80
Pompano, whole	72.8	18.8	7.5	1.0	147
Pogy (scup), whole	75.0	18.6	5.1	1.4	123
Salmon, whole	64.6	22.0	12.8	1.4	209
Shad, whole	70.6	18.8	9.5	1.3	165
roe, as purchased	71.2	20.9	3.8	1.5	133
Smelt, whole	79.2	17.6	1.8	1.7	89
Spanish mackerel, whole	68.1	21.5	9.4	1.5	175
Trout, brook, whole	77.8	19.2	2.1	1.2	98
Preserved and canned:					
Cod, salt	53.5	25.4	0.3	....	90
Herring, smoked	34.6	36.9	15.8	....	299
Mackerel, salt, dressed	43.4	17.3	26.4	....	316
Salmon, canned	63.5	21.8	12.1	....	201
Sardines, canned	52.3	23.0	19.7	....	278
Shellfish, etc., Fresh:					
Clams, round, removed from shell, as purchased	80.8	10.6	1.1	5.2	75
Oysters, solids, as purchased	88.3	6.0	1.3	3.3	51
Scallops, as purchased	80.3	14.8	0.1	3.4	76
I. Eggs.					
Hens', uncooked	73.7	13.4	10.5	....	159
boiled	73.2	13.2	12.0	....	169
whites	86.2	12.3	0.2	....	55
yolks	49.5	15.7	33.3	....	376
Egg, boiled, 1 egg (50 gm.)	36.6	6.6	6.0	....	169
				Total, 1 egg	83

Food Material.	Water. Per cent.	Protein. Per cent.	Fat. Per cent.	Carbohydrates. Per cent.	Calories per 100 gm.
J. Dairy Products, etc. (As Purchased).					
Butter	11.0	1.0	85.0	....	795
Buttermilk	91.0	3.0	0.5	4.8	36
Cheese, American, pale	31.6	28.8	35.9	0.3	453
red	28.6	29.6	38.3	....	477
California flat	34.0	24.3	33.4	4.5	429
Cheddar	27.4	27.7	36.8	4.1	473
Cheshire	37.1	26.9	30.7	0.9	399
Cottage	72.0	20.9	1.0	4.3	112
Dutch	35.2	37.1	17.7	....	316
Full cream	34.2	25.9	33.7	2.4	430
Limburger	42.1	23.0	29.4	0.4	369
Neuchatel	50.0	18.7	27.4	1.5	337
Roquefort	29.3	22.6	29.5	1.8	375
Swiss	31.4	27.6	24.9	1.3	443
Cream	74.0	2.5	18.5	4.5	201
Koumiss	89.3	2.8	2.1	5.4	53
Milk, condensed, sweetened	26.9	8.8	8.3	54.1	335
unsweetened (evaporated cream)	68.2	9.6	9.3	11.2	172
skimmed	90.5	3.4	0.3	5.1	37
whole	87.0	3.3	4.0	5.0	72
whey	93.0	1.0	0.3	5.0	28
K. Miscellaneous (As Purchased).					
Beef-juice	93.0	4.9	0.6	....	25
Calf's-foot jelly	77.6	4.3	....	17.4	89
Oleomargarine	9.5	1.2	83.0	....	777
VEGETABLE FOOD.					
A. Flour, Meals, etc.					
Barley meal and flour	11.9	10.5	2.2	72.8	362
Buckwheat flour	13.6	6.4	1.2	77.9	357
Cornmeal, granular	12.5	9.2	1.9	75.4	365
Corn Preparations:					
Cerealine	10.3	9.6	1.1	78.3	370
Hominy	11.8	8.3	0.6	79.0	364
cooked	79.3	2.2	0.2	17.8	84

Food Material.	Water. Per cent.	Protein. Per cent.	Fat. Per cent.	Carbohydrates. Per cent.	Calories per 100 gm.
Corn Preparations: Oatmeal	7.3	16.1	7.2	67.5	410
boiled	84.5	2.8	0.5	11.5	63
gruel	91.6	1.2	0.4	6.3	34
water	96.0	0.7	0.1	2.9	15
Rolled oats	7.7	16.7	7.3	66.2	408
Rice	12.3	8.0	0.3	79.0	359
boiled	72.5	2.8	0.1	24.4	112
flaked	9.5	7.9	0.4	81.9	371
flour	8.5	8.6	6.1	68.0	370
Rye flour	12.9	6.8	0.9	78.7	359
meal	11.4	13.6	2.0	71.5	367
Wheat, entire	11.4	13.8	1.9	71.9	369
gluten	12.0	14.2	1.8	71.1	367
Graham	11.3	13.3	2.2	71.4	368
Prepared (self-raising)	10.8	10.2	1.2	73.0	353
Wheat Preparations:					
Cracked and crushed	10.1	11.1	1.7	75.5	371
Farina	10.9	11.0	1.4	76.3	371
Flaked	8.7	13.4	1.4	74.3	373
Gems	10.4	10.5	2.0	76.0	374
Glutens	8.9	13.6	1.7	74.6	378
Macaroni	10.3	13.4	0.9	74.1	367
cooked	78.4	3.0	1.5	15.8	91
Noodles	10.7	11.7	1.0	75.6	367
Shredded	8.1	10.5	1.4	77.9	375
Spaghetti	10.6	12.1	0.4	76.3	366
Vermicelli	11.0	10.9	2.0	72.0	358
B. Bread, Crackers, Pastry, etc. (As Purchased).					
Bread:					
Brown	43.6	5.4	1.8	47.1	231
Corn (johnny cake)	38.9	7.9	4.7	46.3	266
Rye	35.7	9.0	0.6	53.2	260
Wheat:					
Buns	29.0	6.3	6.5	57.3	321
Cinnamon	23.6	9.4	7.2	59.1	347
Currant	27.5	6.7	7.6	57.6	334

Food Material. VEGETABLE FOOD.	Water. Per cent.	Protein. Per cent.	Fat. Per cent.	Carbohydrates. Per cent.	Calories per 100 gm.
Bread, Wheat: Hot cross	36.7	7.9	4.8	49.7	281
Graham	35.7	8.9	1.8	52.1	267
Biscuit, home made	32.9	8.7	2.6	55.3	287
soda	22.9	9.3	13.7	52.6	381
Rolls, French	32.0	8.5	2.5	55.7	287
Vienna	31.7	8.5	2.2	56.5	287
White, biscuit	35.2	8.0	1.4	54.3	269
home-made	35.0	9.1	1.6	53.3	270
all analyses	35.3	9.2	1.3	53.1	268
Whole wheat	38.4	9.7	0.9	49.7	251
Zwieback	5.8	9.8	9.9	73.5	434
Crackers:					
Soda	5.9	9.8	9.1	73.1	424
Boston (split)	7.5	11.0	8.5	71.1	416
Egg	5.8	12.6	14.0	66.6	454
Graham	5.4	10.0	9.4	73.8	429
Oatmeal	6.3	11.8	11.1	69.0	434
Oyster	4.8	11.3	10.5	70.5	433
Pretzels	9.6	9.7	3.9	72.8	375
Saltines	5.6	10.6	12.7	68.5	442
Water	6.4	11.7	5.0	75.7	405
All analyses	6.8	10.7	8.8	71.9	420
Cake:					
Bakers'	31.4	6.3	4.6	59.9	302
Chocolate layer	20.5	6.2	8.1	64.1	364
Drop	16.6	7.6	14.7	60.3	316
Frosted	18.2	5.9	9.0	64.8	374
Fruit	17.3	5.9	10.9	64.1	388
Gingerbread	18.8	5.8	9.0	63.5	368
Sponge	15.3	6.3	10.7	65.9	396
Cookies, Cakes, etc.:					
Mollasses cookies	6.2	7.2	8.7	75.7	421
Sugar cookies	8.3	7.0	10.2	73.2	423
Ginger snaps	6.3	6.5	8.6	76.0	418
Lady fingers	15.0	8.8	5.0	70.6	371
Macaroons	12.3	6.5	15.2	65.2	435
Doughnuts	18.3	6.7	21.0	53.1	441

Food Material.	Water.	Protein.	Fat.	Carbohydrates.	Calories per 100 gm.
Pie:	Per cent.	Per cent.	Per cent.	Per cent.	
Apple	42.5	3.1	9.8	42.8	280
Cream	32.0	4.4	11.4	51.2	334
Custard	62.4	4.2	6.3	26.1	183
Lemon	47.4	3.6	10.1	37.4	262
Mince	41.3	5.8	12.3	38.1	294
Squash	64.2	4.4	8.4	21.7	185
Puddings:					
Rice custard	59.4	4.0	4.6	31.4	182
Indian meal	60.7	5.5	4.8	27.5	180
Tapioca	64.5	3.3	3.2	28.2	159
Tapioca with apple	70.1	0.3	0.1	29.3	122
Ice-cream	66.9	5.2	10.1	17.7	189
C. Sugars, Starches, etc. (As Purchased)					
Candy	....	....	....	96.0	391
Honey	18.2	0.4	....	81.2	335
Mollasses, cane	25.1	2.4	....	69.3	284
Starch, tapioca	11.4	0.4	0.1	88.0	364
Sugar, coffee or brown	....	....	....	95.0	389
granulated	....	....	....	100.0	410
maple	....	....	....	82.8	339
powdered	....	....	....	100.0	410
D. Vegetables.					
Artichokes, as purchased	79.5	2.6	0.2	16.7	80
Asparagus, cooked, as purchased	91.1	2.1	3.3	2.2	48
Beans, butter, green	58.9	9.4	0.6	29.1	163
String beans, cooked	95.3	0.8	1.1	1.9	21
fresh, as purchased	83.0	2.1	0.3	6.9	40
Beets, cooked	88.6	2.3	0.1	7.4	41
Cabbage	91.5	1.6	0.3	5.6	32
Carrots, fresh	88.2	1.1	0.4	9.3	46
Cauliflower, as purchased	92.3	1.8	0.5	4.7	31
Celery	94.5	1.1	0.1	3.3	19
Corn, green	75.4	3.1	1.1	19.7	104
Cucumbers	95.4	0.8	0.2	3.1	18

Food Material. VEGETABLE FOOD.	Water. Per cent.	Protein. Per cent.	Fat. Per cent.	Carbohydrates. Per cent.	Calories per 100 gm.
Eggplant	92.9	1.2	0.3	5.1	29
Greens, beet, cooked, as purchased	89.5	2.2	3.4	3.2	54
Lentils, dried, as purchased	8.4	25.7	1.0	59.2	357
Lettuce	94.7	1.2	0.3	2.9	20
Mushrooms, as purchased	88.1	3.5	0.4	6.8	46
Okra	90.2	1.6	0.2	7.4	39
Onions, fresh	87.6	1.6	0.3	9.9	49
prepared, as purchased	91.2	1.2	1.8	4.9	42
Parsnips	83.0	1.6	0.5	13.5	66
Peas, dried, as purchased	9.5	24.6	1.0	62.0	365
green	74.6	7.0	0.5	16.9	102
cooked, as purchased	73.8	6.7	3.4	14.6	119
Potatoes, raw or fresh cooked	78.3	2.2	0.1	18.4	85
boiled, as purchased	75.5	2.5	0.1	20.9	97
cooked chips, as purchased	2.2	6.8	39.8	46.7	589
mashed and creamed, as purchased	75.1	2.6	3.0	17.8	111
sweet, raw or fresh	69.0	1.8	0.7	27.4	126
cooked and prepared, as purchased	51.9	3.0	2.1	42.1	204
Pumpkins	93.1	1.0	0.1	5.2	26
Radishes	91.8	1.3	0.1	5.8	30
Rhubarb	94.4	0.6	0.7	3.6	23
Sauerkraut, as purchased	88.8	1.7	0.5	3.8	28
Spinach, fresh, as purchased	92.3	2.1	0.3	3.2	24
cooked, as purchased	89.8	2.1	4.1	2.6	57
Squash	88.3	1.4	0.5	9.0	47
Tomatoes, fresh, as purchased	94.3	0.9	0.4	3.9	23
Turnips	89.6	1.3	0.2	8.1	41
Canned as Purchased.					
Asparagus	94.4	1.5	0.1	2.8	19
Beans, baked	68.9	6.9	2.5	19.6	132
string	93.7	1.1	0.1	3.8	21
lima	79.5	4.0	0.3	14.6	79
red kidney	72.7	7.0	0.2	18.5	106
Brussels sprouts	93.7	1.5	0.1	3.4	21
Corn, green	76.1	2.8	1.2	19.0	103
Okra	94.4	0.7	0.1	3.6	19

Food Material.	Water. Per cent.	Protein. Per cent.	Fat. Per cent.	Carbohydrates. Per cent.	Calories per 100 gm.
Peas, green	85.3	3.6	0.2	9.8	56
Pumpkins	91.6	0.8	0.2	6.7	33
Squash	87.6	0.9	0.5	10.5	52
Succotash	75.9	3.6	1.0	18.6	103
Tomatoes	94.0	1.2	0.2	4.0	23
F. Fruits, Berries.					
Apples:					
Edible portion	84.6	0.4	0.5	14.2	64
As purchased (refuse, 25.0)	63.3	0.3	0.3	10.8	49
Apricots	85.0	1.1	....	13.4	59
Bananas:					
Edible portion	75.3	1.3	0.6	22.0	101
As purchased (refuse, 35.0)	48.9	0.8	0.4	14.3	66
Blackberries, as purchased	86.3	1.3	1.0	10.9	15
Cherries, as purchased	76.8	0.9	0.8	15.9	76
Cranberries, as purchased	88.9	0.4	0.6	9.9	47
Currants, as purchased	85.0	1.5	....	12.8	58
Figs, fresh, as purchased	79.1	1.5	....	18.8	84
Grapes, as purchased	58.0	1.0	1.2	14.4	74
Huckleberries	81.9	0.6	0.6	16.6	76
Lemons:					
Edible portion	89.3	1.0	0.7	8.5	45
As purchased (refuse, 30.0)	62.5	0.7	0.5	5.9	32
Muskmelons:					
Edible portion	89.5	0.6	....	9.3	41
As purchased (refuse, 50.0)	44.8	0.3	....	4.6	20
Nectarines	82.9	0.6	....	15.9	67
Oranges:					
Edible portion	86.9	0.8	0.2	11.6	53
As purchased (refuse, 27.0)	63.4	0.6	0.1	8.5	37
Peaches:					
Edible portion	69.4	0.7	0.1	9.4	42
As purchased (refuse, 18.0)	73.3	0.5	0.1	7.7	34
Pears:					
Edible portion	64.4	0.6	0.5	14.1	65
As purchased (refuse, 10.0)	76.0	0.5	0.4	12.7	57
Pineapple	89.3	0.4	0.3	9.7	44

Food Material. VEGETABLE FOOD.	Water. Per cent.	Protein. Per cent.	Fat. Per cent.	Carbohydrates. Per cent.	Calories per 100 gm.
Prunes	79.6	0.9	....	18.9	81
Raspberries, as purchased	85.8	1.0	....	12.6	56
Strawberries	90.4	1.0	0.6	7.4	40
Watermelons:					
Edible portion	92.4	0.4	0.2	6.7	31
As purchased (refuse, 59.4)	37.5	0.2	0.1	2.7	13
Dried.					
Apples, as purchased	28.1	1.6	2.2	66.1	298
Apricots, as purchased	29.4	4.7	1.0	62.5	284
Citron, as purchased	19.0	0.5	1.5	78.1	336
Currants, as purchased	17.2	2.4	1.7	74.2	330
Dates	15.4	2.1	2.8	78.4	336
Figs, as purchased	18.8	4.3	0.3	74.2	325
Pears	16.5	2.8	5.4	72.9	360
Prunes	22.3	2.1	....	73.3	309
Raisins	14.6	2.6	3.3	76.1	354
Canned and Jellies.					
Preserves, etc., as purchased:					
Apples, crab	42.4	0.3	2.4	54.4	247
sauce	61.1	0.2	0.8	37.2	161
Apricots	81.4	0.9	....	17.3	75
Blackberries	40.0	0.8	2.1	56.4	254
Blueberries	85.6	0.6	0.6	12.8	61
Cherries	77.2	1.1	0.1	21.1	91
Figs, stewed	56.5	1.2	0.3	40.9	173
Marmalade (orange peel)	14.5	0.6	0.1	84.5	349
Peaches	88.1	0.7	0.1	10.8	49
Pears	81.1	0.3	0.3	18.0	78
Strawberries, stewed	74.8	0.7	....	24.0	101
Prune sauce	76.6	0.5	0.1	22.3	95
G. NUTS.					
Almonds	4.8	21.0	54.9	17.3	668
Beechnut	4.0	21.9	57.4	13.2	678
Brazil nuts (Bertholletia excelsa), edible portion	5.3	17.0	66.8	7.0	720
Butternuts:					
Juglans cinerea	4.4	27.9	61.2	3.5	698

Food Material.	Water.	Protein.	Fat.	Carbohydrates.	Calories per 100 gm.
Chestnuts:	Per cent.	Per cent.	Per cent.	Per cent.	
Edible portion	45.0	6.2	5.4	42.1	246
As purchased (refuse, 16.0)	37.8	5.2	4.5	35.4	208
Cocoanuts	14.1	5.7	50.6	27.9	608
Cocoanut, prepared, as purchased	3.5	6.3	57.4	31.5	689
Filberts	3.7	15.6	65.3	13.0	725
Hickory nuts	3.7	15.4	67.4	11.4	737
Lichi nuts	17.9	2.9	0.2	77.5	332
Peanuts:					
Edible portion	9.2	25.8	38.6	24.4	564
As purchased (refuse, 24.5)	6.9	19.5	29.1	18.5	427
Peanut butter, as purchased	2.1	29.3	46.5	17.1	623
Walnuts, California	2.5	18.4	64.4	13.0	728
H. Miscellaneous.					
Chocolate	5.9	12.9	48.7	30.3	631
Cocoa	4.6	21.6	28.9	37.7	511

UNCLASSIFIED FOOD MATERIALS.

Animal and Vegetable.

A. Soups.

Home Made (As Purchased).

Beef	92.9	4.4	0.4	1.1	26
Bean	84.3	3.2	1.4	9.4	65
Chicken	84.3	10.5	0.8	2.4	61
Chowder, clam	88.7	1.8	0.8	6.7	43
Meat stew	84.5	4.6	4.3	5.5	81

Canned (As Purchased).

Asparagus, cream of	87.4	2.5	3.2	5.5	63
Bouillon	96.6	2.2	0.1	0.2	11
Celery, cream of	88.6	2.1	2.8	5.0	55
Chicken	93.8	3.6	0.1	1.5	22
gumbo	89.2	3.8	0.9	4.7	43
Consommé	96.0	2.5	....	0.4	12
Corn, cream of	86.8	2.5	1.9	7.8	59
Julienne	95.9	2.7	....	0.5	13
Mock turtle	89.8	5.2	0.9	2.8	41

Food Material.	Water.	Protein.	Fat.	Carbohydrates.	Calories per 100 gm.
UNCLASSIFIED FOOD MATERIAL.	Per cent.	Per cent.	Per cent.	Per cent.	
Mulligatawny	89.3	3.7	0.1	5.7	40
Oxtail	88.8	4.0	1.3	4.3	46
Pea	86.9	3.6	0.7	7.6	52
cream of green	87.7	2.6	2.7	5.7	60
Tomato	90.0	1.8	1.1	5.6	41
Turtle, green	86.6	6.1	1.9	3.9	58
Vegetable	95.7	2.9	....	0.5	14
B. MISCELLANEOUS.					
Hash	80.3	6.0	1.9	9.4	80
Mincemeat, commercial	27.7	6.7	1.4	60.2	288
home-made	54.4	4.8	6.7	32.1	214
Salad, ham	69.4	15.4	7.6	5.6	157
Sandwich, egg	41.4	9.6	12.7	34.5	299
chicken	48.5	12.3	5.4	32.1	232

STANDARD PORTIONS*

TABLE OF FOODS GIVING WEIGHT (IN GRAMS, OUNCES, AND ROUGH MEASURE OF A "STANDARD PORTION" OF EACH FOOD AND THE ACTUAL AMOUNT OF PROTEIN, FAT, AND CARBOHYDRATE IN EACH PORTION

Name of Food.	Portion containing 100 calories roughly described.	Weight of 100 calories.		Actual amount of protein, fat, and carbohydrate in each portion of 100 calories.†		
				Protein.	Fat.	Carbohydrate.
COOKED MEATS.		Gm.	Oz.	Gm.	Gm.	Gm.
[1] Beef, round, boiled (fat)	Small serving	36	1.3	9.1	7.1	
[1] Beef, round, boiled (lean)	Large serving	62	2.2	17.1	4.7	
[1] Beef, round, boiled (medium)	Small serving	44	1.6	11.2	8.8	
[1] Beef, ribs, boiled	Small serving	30	1.1	5.3	7.3	
[2] Chicken, as purchased, canned	One thin slice	27	0.96	7.4	3.4	
[2] Lamb chops, boiled, edible portion, average	One small chop	27	0.96	5.8	8	
[2] Lamb, leg roast	Ordinary serving	50	1.8	9.8	6.3	
[1] Mutton, leg, boiled	Large serving	34	1.2	8.5	7.6	
[1] Pork, ham, boiled (fat)	Small serving	20.5	0.73	4.1	4.5	
[1] Pork, ham, roasted (fat)	Small serving	27	0.96	4.4	10.8	
[2] Turkey, as purchased, canned	Small serving	28	0.99	3.7	8.4	
[1] Veal, leg, boiled	Large serving	67.5	2.4	13.9	4.5	

* Irving Fisher, Journal American Medical Association, 1907, vol. xlviii, p. 1320.

† U. S. Department Agriculture, Bulletin No. 28, 1906.

[1] Experiments on Losses in Cooking Meats, Grindley, U. S. Dep't Agricult., Bull. No. 141.

[2] Chemical Composition of American Food Stuffs, Atwater and Bryant, U. S. Dep't Agricult., Bull. No. 28.

Name of Food.	Portion containing 100 calories roughly described.	Weight of 100 calories.		Actual amount of protein, fat, and carbohydrate in each portion of 100 calories.		
				Protein.	Fat.	Carbohydrates.
UNCOOKED MEATS.		Gm.	Oz.	Gm.	Gm.	Gm.
[2] Chicken, broilers, edible portion	Large serving	90	3.2	18.6	7.4	
[2] Beef, loin, edible portion, average	Ordinary serving	50	1.8	9.5	9.6	
[2] Beef, ribs, edible portion, average	Ordinary serving	52	1.8	9.2	13.7	
[2] Beef, sirloin steak	Small steak	40	1.4	7.5	7.4	
[2] Mutton, leg, hind, lean, edible portion, av.	Ordinary serving	50	1.8	9.3	8.7	
[2] Liver, veal, as purchased	Two small servings	79	2.8	15	39	
[2] Cod, whole, edible portion	Two servings	138	4.9	15	4.1	
[2] Halibut steaks, average	Ordinary serving	81	2.8	15	4.2	
[2] Mackerel (Spanish)	Ordinary serving	57	2.0	12.2	5.3	
[2] Pork, ham, smoked, lean, edible portion, av.	Small serving	36	1.3	5.9	13.9	
[2] Pork, bacon, smoked, medium fat, average	Small serving	15	0.53	1.5	9.7	
DAIRY PRODUCTS.						
[2] Butter, as purchased	Ordinary pat or ball	12.5	0.44	0.1	10.6	
[2] Buttermilk, as purchased	1½ glasses	275	9.7	8.2	1.3	13.2
[2] Cheese, American, pale, as purchased	1½ cubic inches	22	0.77	6.3	7.8	0.06
[2] Cheese, cottage, as purchased	4 cubic inches	89	3.12	18.6	0.8	3.8
[2] Cheese, full cream, as purchased	1½ cubic inches	23	0.82	5.9	7.7	0.55
[2] Cream	¼ ordinary glass	49	1.7	1.2	9.0	2.2
[2] Milk, whole, as purchased	Small glass	140	4.9	4.7	5.6	7.0
[2] Milk, condensed, sweetened, as purchased		30	1.06	2.6	2.4	16.2

[2] Milk, condensed, unsweetened, evaporated cream, as purchased		59	2.05	5.7	5.5	6.7
[2] Milk, skimmed, as purchased	1½ glasses	255	9.4	8.6	7.6	13.0
CEREALS.						
[2] Bread, corn (johnny cake), as purchased	Small square	38	1.3	3	1.7	17.5
[2] Bread, white, home-made, as purchased	Ordinary thick slice	38	1.3	3.4	0.6	20.2
[2] Cornmeal, granular, average		27	0.96	2.5	0.5	20.3
[2] Crackers, graham, as purchased	Two crackers	23	0.82	2.3	2.1	16.8
[2] Crackers, oatmeal, as purchased	Two crackers	23	0.81	2.7	2.5	15.8
[2] Hominy, cooked	Large serving	120	4.2	2.6	0.2	21.3
[2] Oatmeal, boiled, average	One and a half serving	159	5.6	4.4	0.8	18.2
[2] Rice, boiled, average	Ordinary cereal dish	87	3.1	2.4	0.8	21.2
[2] Rice, uncooked		28	0.98	2.2	0.8	22
[2] Shredded wheat	One biscuit	27	0.94	3.5	0.4	22.5
[2] Rolls, Vienna	One large roll	35	1.2	2.9	0.77	19.7
[2] Spaghetti, average		28	0.97	3.4	0.11	21.3
[2] Macaroni, cooked, average	Ordinary serving	110	3.8	3.3	1.6	17.3
[2] Zwieback	Size of thick slice of bread	23	0.81	2.2	2.3	16.9
[2] Wheat flour, white, average		27	0.97	2.9	0.3	20.2
VEGETABLES.						
[2] Asparagus, as purchased, average		206	7.1	4.3	6.7	4.5
[2] Beans, baked	Small side dish	75	2.6	5.2	1.9	14.7
Beans, string, cooked	Five servings	480	16.6	3.8	5.3	9.1

[2] Chemical Composition of American Food Stuffs, Atwater and Bryant, U. S. Dep't Agricult., Bull. No. 28.

Name of Food.	Portion containing 100 calories roughly described.	Weight of 100 calories.		Actual amount of protein, fat, and carbohydrate in each portion of 100 calories.		
				Protein.	Fat.	Carbohydrates.
VEGETABLES		Gm.	Oz.	Gm.	Gm.	Gm.
[2] Beans, lima, canned	Large side dish	126	4.4	5.4	0.4	18.4
[2] Beets, edible portion, cooked	Three servings	245	8.7	5.6	0.2	18.3
[2] Cabbage, edible portion, cooked	Three servings	310	11.0	4.9	0.9	17.3
Carrots, edible portion, cooked	Two servings	164	5.8	1.8	0.65	15.3
[2] Celery, edible portion		540	19	6	0.5	17.8
[2] Cauliflower, as purchased		312	11	5.6	1.5	14.6
Corn, sweet, cooked	One side dish	99	3.5	2.8	1.2	19
[2] Eggplant, edible portion, average		350	12	4.2	1	17.8
Lentils, cooked		89	3.1	22.9	0.9	52.6
[2] Onions, fresh, edible portion, average		200	7.1	3.2	0.6	19.8
[2] Onions, cooked	Two large servings	240	8.4	2.9	4.3	11.7
[2] Parsnips, edible portion, average	One and a half servings	152	5.3	2.4	0.7	20.5
[2] Peas, green, cooked	One serving	85	3	5.7	2.9	12.4
Potatoes, baked	One, good sized	86	3	1.7	0.08	15.8
[2] Potatoes, boiled	One, large sized	102	3.6	2.5	0.1	21.3
[2] Potatoes, mashed and creamed	One serving	89	3.1	2.3	2.6	15.8
[2] Potato chips	One-half serving	17	0.6	1.1	6.7	8
[2] Potatoes, sweet, cooked	One-half average potato	49	1.7	1.4	1	20.6
[2] Spinach, cooked, as purchased	Two ordinary servings	174	6.1	3.6	7.13	4.5
[2] Squash, edible portion, average		210	7.4	2.9	1	18.9

[2] Succotash, canned, as purchased	Ordinary serving	100	3.5	3.6	1	18.6
[2] Tomatoes, fresh, as purchased, average	Four average tomatoes	430	15	3.9	1.7	16.7
Tomatoes, canned		431	15.2	5.1	0.86	17.2
[2] Turnips, edible portion, average	Two large servings	246	8.7	3.1	0.5	20
Fruits (Dried)						
[2] Apples, as purchased, average		34	1.2	0.54	0.74	22.4
[2] Apricots, as purchased, average		35	1.2	1.6	3	21.47
[2] Figs, edible portion	One large one	31	1.1	1.3	....	23
[2] Prunes, edible portion	Three large ones	32	1.1	0.7	....	23.4
[2] Raisins, as purchased		31	1.1	0.8	1	23.6
Fruits (Fresh or Cooked)						
[2] Apples, as purchased	Two apples	206	7.3	0.6	0.6	22
Apple sauce	Ordinary serving	111	3.9	0.2	0.8	41.3
Apricots, cooked	Large serving	131	4.6	1.1	....	22.6
[2] Bananas, yellow, edible portion, average	One large	100	3.5	1.3	0.6	22
[2] Blackberries, as purchased, average		170	5.9	2.2	1.7	18.5
[2] Blueberries, canned, as purchased		165	5.8	1	1	21
Cantaloupe	Half ordinary serving	243	8.6	0.72	....	11
[2] Cranberries, as purchased, average		210	7.5	0.8	1.2	20.7
[2] Grapes, as purchased, average		136	4.8	1.3	1.6	19.5
[2] Oranges, as purchased, average	One very large one	270	9.4	1.3	0.2	18.7
[2] Peaches, as purchased, average	Three ordinary ones	290	10	1.4	0.3	22.3

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Name of Food.	Portion containing 100 calories roughly described.	Weight of 100 calories.		Actual amount of protein, fat, and carbohydrate in each portion of 100 calories.		
				Protein.	Fat.	Carbohydrates.
FRUITS (FRESH OR COOKED)		Gm.	Oz.	Gm.	Gm.	Gm.
[2] Pear	One large pear	173	5.4	1	0.8	44.3
Raspberries		178	6.2	1.7	...	22.4
[2] Strawberries, as purchased, average	Two servings	260	9.1	2.6	1.5	19.2
CAKE, PUDDING, PASTRY DESSERTS.						
[2] Cake, chocolate layer	Half ordinary square	28	0.98	1.7	2.2	12.7
[2] Sponge cake	Small piece	25	0.89	1.5	2.7	16.5
[2] Gingerbread, as purchased	Half ordinary square piece	27	0.96	1.5	2.4	18
Custard, milk	Ordinary cup	122	4.2	5.1	7.7	32
Custard, tapioca	Two-thirds ordinary cup	69	2.4	2.3	2.1	18.4
[2] Doughnuts, as purchased	Half a doughnut	23	0.8	1.7	4.8	12.2
[2] Pie, apple, as purchased	One-third ordinary piece	38	1.3	1.1	3.7	16.3
[2] Pie, custard, as purchased	One-third ordinary piece	55	1.9	2.3	3.4	14.3
[2] Pie, cream, as purchased	One-fourth ordinary piece	30	1.1	1.3	3.4	15.3
[2] Pie, lemon, as purchased	One-third ordinary piece	38	1.3	1.3	3.8	14.2
Pudding, apple sago		81	3	2	0.8	23.7
Pudding, cream, rice	Very small serving	75	2.6	3	3.4	23.5
Pudding, Indian meal	Half ordinary serving	56	2	3	2.6	15.4
Pudding, apple, tapioca	Small serving	79	2.8	0.2	0.07	23
Tapioca, cooked	Ordinary serving	108	3.8	3.5	3.4	30.4

Miscellaneous.						
[2] Honey, as purchased	Four teaspoonfuls	30	1	0.1	....	24.3
[2] Molasses, cane		35	1.2	0.8	....	24
[2] Marmalade (orange peel)		28	1	0.2	0.02	24
[2] Sugar, granulated	3 teaspoonfuls (1½ lumps)	24	0.8	....	....	24
[2] Sugar, maple or syrup	Four teaspoonfuls	35	1.2	....	....	35
[2] Almonds	Eight	15	0.5	3.1	8.2	2.6
[2] Chestnuts, fresh, edible portion, as purchased, average		40	1.4	2.4	2.1	17
[2] Peanuts	Thirteen double	18	0.62	4.6	8	4.4
[2] Hickory nuts		13	0.47	2	8.7	1.5
[2] Eggs, hens', boiled	One large egg	59	2.1	7.9	7.2	
[2] Eggs, hens', white		181	6.4	22	....	
[2] Eggs, hens', yolk	Two yolks	27	0.94	4.2	9	
[2] Soup, beef, as purchased		380	13	16.7	1.5	4.1
[2] Soup, bean, as purchased	Very large plate	150	5.4	4.8	2.1	14
[2] Soup, cream of celery, as purchased	Two plates	180	6.3	3.7	5	9
[2] Consommé, as purchased		830	29	20.7	....	3.3

[2] Chemical Composition of American Food Stuffs, Atwater and Bryant, U. S. Dep't Agricult., Bull. No. 28.

APPENDIX

Karell Treatment for Anasarca

For First Five to Seven Days

8, 12 A. M.; 4, 8 P. M.: Milk, 200 c.c.
No other fluids.

Eighth Day

Milk as above.
10 A. M.: 1 soft-boiled egg.
6 P. M.: 2 pieces of dry toast.

Ninth Day

Milk as above.
10 A. M.: 1 soft-boiled egg and 2 pieces of dry toast.
6 P. M.: 1 egg and 2 pieces of dry toast.

Tenth Day

Milk as above.
12 NOON.: Chopped meat, rice boiled in milk, vegetables.
6 P. M.: 1 soft-boiled egg.

Eleventh to Twelfth Days

Same as tenth day.

No salt is used throughout diet. Salt-free toast and butter used. Small amount of cracked ice allowed with diet. All meat can often advantageously be omitted.

[1] From the New York Hospital Diet Lists.

Comment on the Karell Diet

The usefulness of the Karell treatment in cases of anasarca is sometimes extremely satisfactory, and may succeed in eliminating the edema in certain cases where the ordinary salt-poor diets fail. The limitation of the fluid in-take, together with the low food value and minimal salt content, seem to explain its action. Besides being helpful in some nephritic cases, it is often of great use in fluid collections due to a decompensated heart.

The lessened amount of fluid taken, of course, diminishes the work of the heart, and so favors restoration of its function.

Gastric Diet

Von Leube Treatm nt for Peptic Ulcer[1]

For the first three days neither food nor water is to be taken, the mouth being kept moist by washes. If the patient is very thirsty, the Murphy drip may be used. In patients who are aged, debilitated, or desiccated by vomiting and insufficient nourishment, the first period of starvation is limited to twenty-four hours. On the second day 2 to 4 ounces of Celestine Vichy is given every two hours, and on the third day alternate these doses with albumin-water, so that liquids are taken every hour.

During this time hot applications, preferably by the electric pad, are applied constantly to the epigastrium. On the fourth day peptonized milk, 2 ounces, Celestine Vichy, 2 or 3 ounces, on alternate hours are begun, and these quantities are increased every day until 8 ounces of each are taken. The hot applications are still continued and the patient kept quietly in bed.

[1] As modified by G. R. Lockwood.

The bowels are now kept open by low simple enemata. If there is any acidity, alkaline powders are given, but otherwise no medicine is taken. About the tenth day are added, in order, milk-toast, junket, and fine cereal, and then one may begin one of two lines of treatment: If the bowels are constipated and the breath offensive, start with Carlsbad water, giving a glassful, hot, before the first nourishment. If necessary, one-half such dose is to be given the last thing at night. If the bowels still remain constipated, reduce the temperature of the Carlsbad to tepid, giving practically a Markbrunnen instead of Sprudel. If the bowels are not so constipated, and if pain and acidity have been permanent symptoms, some rely on nitrate of silver, giving $\frac{3}{6}$ grain three times a day for three days, $\frac{4}{6}$ grain for three days, and $\frac{5}{6}$ grain for three days, and then repeat the cycle. Diarrhea may follow such dosage.

During the third week are added, in order, spaghetti and macaroni, creamed mashed potato, fine cereal, such as hominy or cream of wheat, and creamed fresh fish, such as creamed halibut. Any vegetable that is put through a sieve, such as pea purée, or thick purée soups, without meat stock, may be given. Farinaceous desserts, such as farina, tapioca, cornstarch, blanc-mange, rice pudding, and custard, may also be given.

The patient still remains in bed and continues the use of the hot applications. The hot applications are used regularly, except in cases with recent hemorrhage.

During the fourth week the patient begins to be up and about on the convalescent gastric diets.

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